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REVIEW

OF THE

HISTORY OF MEDICINE,

46149

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REVIEW

OF THE

HISTORY OF MEDICINE

AMONG

ASIATIC NATIONS.

CHAPTER XII.

MIDWIFERY, AND DISEASES OF WOMEN AND CHILDREN.

The obstetric art is considered a branch of surgery, and is treated at length in the shastres. By Susruta, as by many old physiologists, external circumstances were supposed to operate powerfully on the physical and moral qualities of the offspring. On this account, from the time of conception, the woman should be kept happy, she should remain pure, should wear ornaments and white clothes, and the names of the gods, her guru, and Brahmins should be frequently repeated and worshipped. Such a female must not touch a dirty, diseased, or imperfectly formed individual. Things with a

bad smell, and everything bad or disagreeable to the sight, are to be shunned; she should avoid fasting, the use of dry articles of diet, food that has been moistened, or prepared the day before, or is putrid. She should remain at home in order to avoid the evil eye, and be careful to shun devils, by avoiding resting under trees, or entering temples, or where bodies are burnt: anger is also to be avoided. She should avoid fatigue, venery, carrying heavy weights, speaking loud, sleeping in the day time, watching at night, grief, blood letting, and violent exertion, as horse exercise. She should live on well boiled and easily digested food; and not exert herself so as to be fatigued, as it might affect the fœtus; she should not besmear the body with oil, or turmeric; and her bed should be soft and low. Such food is to be given as she wants, but it must be soft, thin, sweet, oleaginous, and what promotes the animal heat. Such directions are to be observed until she is delivered. During the three first months of pregnancy, the food should be very sweet, cool, and thin, as rice and milk; the fourth month she should take curdled milk; the fifth, milk; sixth, ghee; and during the seventh month prepared ghee and milk. By this means the bowels are cleared, the wind will be retained in a favourable

state for assisting at the delivery of the infant, and will ensure its proper position. After these months, give enemas, barley or rice, with the broth of wild animals.

Abortion is threatened when there is severe pain in the uterus, loins, groin, and bladder, and blood is discharged from the vagina. In such cases the affusion of cold water and cold bathing are to be used, and cooling things are to be applied to the surface of the body. Internally, milk and ghee, prepared with strengthening medicines, are useful. If the pain be severe, with a discharge of blood, costiveness, and retention of urine, or the displacement of the fœtus, give oleaginous medicines internally, and apply them externally. If the pain be very severe, give milk prepared with the decoction of woods, mixed with sugar and honey. If there be retention of urine, give milk prepared with diuretic decoctions; if the costiveness is severe, give assafœtida, salt, orris-root, prepared with milk. If there be much discharge of blood, give astringent medicines, mixed with honey. In other cases, the mixture of astringent medicines, and the antiphlogistic diet and treatment are to be used, and a piece of cloth soaked in astringent decoctions is to be stuffed into the vagina. If abortion is thus prevented, the female is afterwards

to live on a strict diet, consisting of milk prepared with a decoction of the fig tree. Boiled rice and barley, without salt or ghee, are also to be given. If there be much pain in the belly, give old jagry, with other carminatives. Sometimes, by deranged wind, the fœtus is retained more than ten months, which will destroy it. In such cases the mother should have nourishing food, and oleaginous medicines, such as broths made of flesh, with ghee and rice, &c. In like manner the mother should not exercise herself, particularly in raising and lowering her head and body, nor should ride over a place which has inequalities on its surface. If the wind dries up the fœtus, the belly does not enlarge, and the fœtus moves little about. In such cases, strengthening broths and other food, with milk, is to be used. Sometimes the fruit of the conception is removed by the influence of devils. In such cases the symptoms of pregnancy suddenly disappear. The food is to be varied each month, in order to promote the growth and to prevent abortion; which often occurs in the relaxing climate of many parts of Hindostan.

We have already described the removal, on a favourable day, in the ninth month, of the pregnant woman, to a temporary hut, built for the purpose, and afterwards destroyed; which must be

kept clean and neat, with the door to the east or south. The approach of delivery is known by the symptoms already stated, and the body is to be anointed with oil and bathed with warm water. Four experienced women are selected for assisting at the delivery, and sour gruel is exhibited in large quantities to assist, by its weight and quality, to expel the fœtus. The patient should lie on her back, with her thighs separated, and her legs bent, and be told that her infant, like an extraneous substance, must be expelled, and she must assist by her methodical efforts.

Should the infant be retained in the passages an unusual time, apply the smoke of the skin of the black serpent, and other disagreeable substances to the vagina.

When the infant is born, a little fine salt and ghee are to be mixed, and a small quantity put into its mouth. A mixture of bruised *neem* leaves and ghee is to be rubbed upon the head, and a piece of oiled cloth put over it. The umbilical cord is to be tied with a string, eight fingers' breadth from the navel, and then divided; and one end of the string is to be bound on the neck of the infant, to prevent evil. A little cold water is next to be thrown upon the face of the infant, and the father offers up the prescribed prayers,

and a mixture of honey, ghee, *Ananta* (Bromelia Ananas), and the juice of the *Bramhi* plant (Ruta graveolens), is to be mixed with the powder of gold, and a piece of it is to be placed in the infant's mouth; or these medicines are to be given with a golden spoon.* The body of the infant is to be anointed with oil, and washed with an infusion of the bark of such trees as have a milky juice. In other cases fragrant infusions are used for washing the infant, or water heated by the immersion of hot silver or gold, according to the circumstances of the father and state of the fœtus.

Should the secundines not be removed, the abdomen remains tense, swollen, and painful, and the dejections constipated. In such a state, a finger covered with hair is to be introduced into the throat of the mother, so as to produce vomiting, when the secundines will be expelled. In other cases disgusting substances are given for producing the same effect; or, the smoke of wild pumpkin, mustard seed, the skins of serpents, with sour milk, oil, &c., are applied to the vagina for the same purpose. Sometimes alvine evacuations mixed with urine and wine, are boiled with white mustard seed and ghee, or oil, and rubbed over the abdomen.

* Manu, p. 21, ch. 2, s. 29.

There are various causes that impede parturition: Sometimes the patient becomes afflicted with a nervous disease, and parturition is impeded by a contraction of the parts; or she may become insensible, and the life of the fœtus be endangered. In other cases, diseases of the vagina or neighbouring parts may impede labour.

The fœtus may die in the uterus, from great grief or other passions of the mother; from injuries of the abdomen; from the mother's eating very hot things, or from various diseases. Such causes will destroy the fœtus, as worms and storms destroy the fruit of trees. When this takes place the signs are the cessation of the movements of the child, the absence of the peculiar pains of labour, the livid colour of the face, the fœtid smell of the breath, and pain in the vagina. When prominent blue veins appear on the abdomen of the mother; or when the body is very cold, and the mother is without shame, the fœtus will die. Both mother and child will die, when she is attacked during utero-gestation with a bad disease. When the child dies from any cause, or delivery cannot be accomplished by the ordinary means, the woman is always to be considered in a dangerous state. Her protector, whether husband or father, and the rajah of the

place is to be told the state she is in; and that the only hope the practitioner can hold out to save the mother's life, or give a chance to the infant being preserved, is by cutting into the womb, which is a difficult and dangerous operation; as it is performed on an internal organ, in which the position of the child is liable to change, and is executed in the dark.

There are three cases which may impede delivery: a deformity of the head of the child; or of the pelvis of the mother; or a preternatural presentation. Such presentations have been divided by Susruta into—one or two knees presenting; the buttocks; the shoulder; the chest; the back; the side of the head; the two feet; the two hands.

Should the infant be alive, the mother should try to expel it herself. If she cannot do that, prayers are to be repeated over some water which the woman is to drink, calling on the gods to produce natural delivery. As this prayer is pronounced, and the water drunk, the various medicines for facilitating the expulsion of the child are to be given; should this method not be successful, the mother is to lie on her back, with her legs bent, and the loins somewhat elevated. The hand of the practitioner is to be

anointed with ghee, and introduced into the vagina, and if the child is coming crooked, it is to be turned straight, and the delivery accomplished. Should the knees present, the feet are to be brought together by the hand introduced into the uterus, and the infant extracted.

If the breach presents, it is to be pushed upwards with the hand, and the feet extracted first. If the fœtus is transverse, the lower part is to be pressed up, and the upper is to be brought down, and thus delivered. Should the side of the body or shoulder present; they are to be pushed upward, and the head is first to be delivered. If both hands present, push them upwards, and bring the head towards the vagina. The two last operations must have been performed with much difficulty; and delivery would have been hastened, if the feet had rather been brought down. If the turning cannot be accomplished, the knife is to be used: if the hand cannot be removed, the body of the infant is to be divided, and thus extracted in pieces; but this is never to be done when the infant is alive. By this operation the mother will be saved. When the head or pelvis is so deformed, it may be necessary to divide the parietis of the abdomen and the uterus longitudinally, and thus extract the living child. Sutures, and

a proper bandage are then applied to keep the lips of the wound together.*

When a pregnant woman, near the full time, is killed suddenly, as a goat is killed before the altar; and should the child move in the uterus, a longitudinal incision is to be made in the abdomen and uterus, and extract the living child.

If the dead fœtus cannot be removed from the uterus, the knife is to be used. The woman is to be encouraged with hope by kind language, and the knife is to be introduced through the vagina; the head is to be opened, and the brain and bones are to be separated and removed. A hook is then to be fixed in the orbit or cheeks, and the head extracted. Then the hook is to be fixed in the breast, belly, or axilla, and the child removed. If the infant be dead, and the shoulders present first, divide them at the shoulder-joint, and then deliver. When the abdomen of the fœtus is much swollen, divide it, remove the intestines, and extract. If the breech presents, divide the bones of the pelvis, and extract. In this manner, any part which impedes labour is to be divided and removed, so

* One of my Pundits informed me, that a case came under his observation, in which delivery could not be accomplished; the child being alive, the practitioner told the husband that unless an operation was performed both would die. It was referred to the woman, who, with heroism, answered, "Do not mind me, save the life of my child!" The operation was performed, the wound in the abdomen sewed up, and both child and mother were saved.

as to save the mother. For this purpose much care is required. As soon as the fœtus is known to be dead, a skilful practitioner will lose no time in completing delivery, as the woman will die very soon, if the dead fœtus is left in the uterus. A pointed instrument should not be employed in performing this operation, as it is liable to wound the mother. It is necessary, therefore, that the practitioner should be so instructed as to be prepared to perform this difficult operation, and so save the life of his patient.

If the secundines do not come away they are to be removed by manual assistance, after oil has been applied to the passages. The abdomen is to be gently pressed on each side, and the patient is to be shaken by a strong person seizing her behind, to assist the extraction.

When the fœtus and secundines have been removed, the woman is to have tepid water thrown over the body, and it is then to be anointed with oil, and a piece of cloth dipped in oil is to be applied to the external parts, which will diminish the after-pains, and keep the parts shut. After this, give the mother the following mixture to diminish the after-pains, and to disperse the bad humours collected in the part. A mixture of long-pepper and its root, dry ginger, assafœtida,

(hedysarum alhagi), *Bach* (iris Germanica), *Atibisha* (annona squamosa), *Rassia* (Dolichos sinensis), and *Chaba* (cicer arietinum), which is to be given in powder with ghee, as a decoction or as a paste, and repeated daily for three, five, or seven days, according to circumstances. Mild tinctures and wines are to be given at night. If any other disease appears at this period, the usual treatment is to be followed. The parts are to be washed with a decoction of *Cirisa* (achyranthes aspera), and *Kakuba* (diospyros melanoxylon).

The body of the woman must be kept perfectly clean, and she should use daily warm oleaginous frictions with the hand. Numerous prepared oils are often used for the four months after parturition.

The body should be anointed with oil prepared with a decoction of *Balla* (terminalia bellerica), or a decoction of such articles as equalise wind. Should any excess of wind, bile, or phlegm exist, long-pepper and its root, *Hasti-pippuli* (arum macrorhizon), *Chitraka* (Limonia pentagyna), *Seringa-veera*, (quercus lancifolia), are to be powdered, mixed with treacle, and given warm. For two or three days this is the only food to be given, or until the bad blood is removed; and when it is purified, give a decoction of rice and barley gruel,

cardamum seeds, *Byaghri* (ficus Indica), *Jawani* prepared with certain plants, and milk. This decoction is to be continued for three days; then give rice, with the broth of wild animals, and continue this regimen for fifteen days, or until the mother's strength is restored. After this period the woman will leave the temporary house in which she was delivered, and return to her usual residence and occupation.

If these rules of diet and regimen, after delivery, are not observed; if she lives on improper or poor food, exercises herself too early after delivery, exposes herself to fatigue, or to changes in the weather, she is liable to dangerous diseases, such as fever, diarrhœa, dysentery, anasarca; and in other cases to pain, costiveness, weakness, dyspepsia, and diseases produced by deranged wind and phlegm, and likewise produced by grief. These diseases after parturition are cured with difficulty. When they have occurred, they are to be treated according to the custom, nature, place, and age of the patient; and when judiciously treated, may be cured; but when the woman is weak they are incurable.

After delivery, the body is dry; and if hot things are given, bad blood remains, and is collected by the wind in the uterus, and produces swelling in the

umbilicus, in the sides, and in and above the bladder, with great pain in the pelvis, head, and breast, as if these parts were pierced with needles. In other cases it stops the urine, and is accompanied with fever, pain over the body, thirst, shivering, and heaviness, and causes swelling of the abdomen and dysentery. Certain decoctions, such as *Biratarn* (sida cordifolia), are given for the cure of this disease, as also the powder of nitre, with warm water and ghee. Powdered long-pepper, and other such articles, with wine, are also given.

The third night after delivery milk appears, and on the fourth day the mammæ are filled by the dhamonee vessels of the heart, from the digested food. This is from sympathy between the child and mother; and when the child is not cared for, the milk is diminished. The first milk of the mother is to be thrown away; but as much as can be retained in the palm of the hand is to be mixed with honey and ghee, and given to the infant at two periods. After this the child should obtain nourishment from the mother: who should avoid anger; and if the strength and appearance of the body is completely restored, she is to return in four months to her usual diet.

The complicated and dangerous diseases of the

puerperal state, are less marked among the weak Asiatics, and do not require those prompt and energetic measures so necessary when the European female is the subject of these diseases.

Diseases of the mammæ. When wind, bile, and phlegm are deranged, and fall on these parts, whether there be milk or not, they derange the flesh and blood, and produce different diseases of the mammæ. There are five forms of these diseases, one of which is produced by each of the diseased humours, and another by their combination. The symptoms and treatment of all these forms of diseases resemble other inflammations, one of which terminates in a large abscess.

The management of infants from their birth, and the treatment of irregular lacteal secretion, and of puerperal disorders of mothers and nurses (*Kaumara bhritya*), forms the fifth division of the Ayur-veda.

The treatment of an infant should be left to the care of old and experienced matrons. It should be covered with silk cloth, and the bed should be properly made, and of soft materials. It is to be fanned with the branch of a *Nimpilu* tree, is to have the oiled cloth daily applied to its head and face, and to be kept in the room with the mother, which is to be fumigated with a mixture of several

sweet-scented gums and woods, with a suitable prayer, to prevent the approach of evil spirits; and such charms are to be applied to the neck, head, arms, and legs as will prevent their approach. Linseed and mustard seed are also to be sprinkled over and around the infant for the same purpose. After ten days the father and mother, with the prescribed ceremonies, are to name the child according to their pleasure, generally from the star which is in the ascendant at the time of birth. During this time the parents are to remain pure and happy.

Wet Nurse. The nurse should be of the same caste as the child, have a perfect body, of a yellowish tinge, be neither long nor short, neither lean nor fat, of a middle age, without disease; of a good temper, of a staid cheerful disposition, and without covetousness. The milk should be good and flow easily from the nipple, which should neither be too long, too large, too small, nor the mammæ too large. If good, the milk will be cold, clean, snowy, like a white shell, sweet to the taste, have no sediment, and when mixed with water without bubbles of air, and not glutinous.

When the woman is very hungry, is grieved, fatigued, has bad humours, is again pregnant, is feverish, very thin, or very stout, and eats roasted

things, and unhealthy mixtures; or when the nipples are not long, and the mammæ large and pendulous, the milk will not be so good.

The nurse should have pleasure in children, if not, the milk will dry up soon. She should not work at a low occupation, and should be of a good family. The more of these qualities the nurse possesses the better. A fortunate day is to be found out on which the infant is first to get the breast. Before this is done the nurse is to bathe, and have new clothes given to her. She is then to sit down with her face towards the east, with the child's to the north. Then the right mammæ is to be washed, and a little milk removed, suitable prayers offered up, and the child then allowed to suck slowly. If the breast be given the child, without this precaution, the milk produces difficulty of breathing, coughing, and vomiting. This is to be avoided; and the next milk, given with a prayer, for an abundance of good milk, which will afford strength and health to the infant, like that of the gods. If these directions are not observed, or if the milk of different nurses is given, diseases will be produced in the child. The nurse must avoid unwholesome heavy things, must eat her food at regular intervals, and avoid whatever will derange wind, bile, or phlegm; as this will render the milk

bad, and produce disease in the infant, which must be carefully avoided, as they are cured with difficulty. She should also avoid improper mixtures and dirty situations, anger, grief, and care, coition, much exercise, and bathing in cold water, as by these means the milk is diminished and rendered unhealthy. When all discharge has ceased, oleaginous articles of food should be taken, and the body anointed with oil and ghee. To increase the milk she should be encouraged, and made happy. For this purpose she should live on nourishing and easily digested food, such as barley, flour, rice, the broths of animals, fish, and good vegetables.

If a nurse uses indigestible food, her milk is affected by its deranging the wind, bile, and phlegm, and rendering it unwholesome. The wind being deranged, renders the milk sour, astringent, pale, and watery; the bile renders it sour and bitter, with a yellowish colour; and the deranged phlegm renders the milk, when mixed with water, mucilaginous; and it sinks. These disorders produce pain and derangement in the humours of the infant. A good physician should observe the signs of all such diseases. The infant, if pained in a part, will touch it frequently, and if it is pressed it will cry. If the head be diseased, the

infant will keep his eyes closed, and he will not be able to support the head. If the bladder be diseased the urine will be suppressed with pain, thirst, and faintness. If the urine and dejections are discoloured, the hue of the body is unnatural, with vomiting and swelling of the abdomen. When the wind is accompanied with noise in the intestines and crying, the whole body is affected. In such cases give soft and mild medicines, with the milk of the mother or nurse. The medicines which cures deranged wind, bile, and phlegm are to be used. If milk is given alone to the infant, any medicine that may be required to be given during this time must likewise be given to the nurse.

If the infant lives on milk and rice, the nurse is to take medicine at the same time; but should the child live on rice alone, medicine is not to be given to the nurse when the child is diseased. If the child is upwards of one month old, and lives on milk, a pinch of medicine is only to be given; if it lives on milk and rice, the dose of medicine is to be of the size of the stone of a plum. If rice only, a dose the size of a plum is to be given.

If the child lives on milk, the medicine is to be formed into a paste, and applied to the mother's nipple. If such a child is affected with fever from diseased wind, milk is alone to be used for several

days. To give ghee on the first day is improper. When fever, accompanied with thirst, is present, the mother's milk is not to be given. Vomiting and purging are improper in such cases, unless when the symptoms are very severe. If the abdomen is swollen at the navel, with pain, medicines to cure wind will be proper; such as anointing the part with oil and ghee, and proper fomentations. If it is swollen near the anus, and suppuration occurs from diseased bile, the antiphlogistic treatment is to be used; with the external and internal use of the sulphate of antimony.

The child is to be moved about gently, the exposure to loud noises is to be avoided, and he is not suddenly to be awoke, nor to be moved quickly, as it will derange the humours. He is not always to be kept sitting, lest his back become humped, on which account he is to be moved about, and pleased by every means. Avoid exposing the child to wind, to the sun, or to lightning. He is not to be placed under trees, especially when creepers are upon them, in empty or bad houses, nor in low places. Shadows of houses are bad, and the glare of lamps is to be avoided; as also impure things of every kind. The parents must avoid the influence of planets, and of demons, by the usual ceremonies and customs. Unclean

places, elevated or rugged situations, or where there is much heat, wind, dust, smoke, or water, are to be avoided.

If the mother or nurse's milk is not good, use goat's milk; or if not to be got, cow's milk; but do not give much at a time. At six months give light and good rice, with the usual ceremonies; and the child must be kept clean, and not exposed to severe weather, or to causes that make him cry. He should be amused, and allowed to sleep undisturbed. When epidemic diseases rage in a place, remove to another, but be careful to avoid places haunted by bad spirits.

The diseases of infants are supposed to be produced—

1st. By derangements in the wind, bile, and phlegm. If the child sucks the mother's milk, affected by either of these, it produces the following diseases: if by deranged wind, the patient becomes affected with the diseases of wind, indicated by his voice being changed, his body emaciated, his bowels costive, and the secretion of urine diminished.

The diseased *bile*, affecting the milk, produces a shining appearance of the body of the infant, as if it was smeared with oil. The body is covered with perspiration, it feels hot, the child has great

thirst, with looseness, and the body becomes of a yellow colour.

When the diseased *phlegm* affects the milk, it increases the saliva of the infant, with the other symptoms produced by diseased phlegm. He is drowsy, the head, mouth, and eyes swell, and a flow of saliva occurs, with sickness and vomiting.

When two of these diseased states act on the milk, they produce the symptoms of the combination. When three are so diseased, the three classes of symptoms are present at the same time. It is only by the degree of crying of the infant, that the kind and severity of the pain are known.

An infant should have an aperient mixture once a month, in order to keep the bowels clear, and prevent his being affected with diarrhœa. Indeed, almost all diseases are produced by constipation.

A child sick within the month of his birth is to have honey, milk, sugar, and ghee mixed, and put on a piece of rolled cloth, like a finger, which he is to be allowed to suck. The dose must be increased according to the temper, growth, and constitution of the child, until he is a year old. From one to sixteen years the above will answer; but other medicines, of a stronger description, should be employed, according to the constitution and nature of the sickness.

Errhines should not be given to a child under seven years; medicine by smoking, under twelve years; medicinal waters to clean the mouth, until the child has passed his fifth year; nor a brush to clean his teeth, before his twelfth year.

Purulent ophthalmia of infants (kulunaka). Bad milk produces disease of the eyelids, which, with the neighbouring parts, are very itchy; tears flow copiously, the eyes are very sensible to light, and the eyelids cannot be opened.

Marasmus (parigarbhika). When a pregnant woman continues to give suck to a child, it produces cough, bad appetite, vomiting, drowsiness, emaciation, giddiness, &c. The child loses its vivacity, and the abdomen swells. In this case, the milk is to be changed, and tonics are to be given. When phlegm is diseased in the soft palate, small pointed elevations form there, by which the fontanel becomes depressed, the soft palate is destroyed, the child cannot suck, and there is a difficulty in swallowing, great thirst, and pain in the throat, mouth, and eyes. He cannot sit up, and he vomits. This disease is called *talukantaka.* In this case the mother's milk is not wanted, and very thin food is to be given in very small quantities, when the child is thirsty.

Children are subject to erysipelas, which is always a most dangerous disease, and requires much attention and care. In other cases the temples swell, like the leaf of a water-lily, and the affection descends to the breast, producing a disease named *mahapadma*. It is produced by a disease of the wind, bile, and phlegm. In other cases it commences in the thorax or abdomen, and descends to the anus. Other diseases, of the class of small diseases, are produced. Fever, and other diseases of adults, may occur in infants, and the medicines to be administered must be varied by the experienced practitioner, according to the circumstances of each case.

Diseases of infants, produced by devils, are numerous, as this not only enables the practitioner's theory to account for various and unusual forms of disease, which they do not understand, but also affords a favourable opportunity for the Brahmins to reap a rich harvest from the ignorant people. In another chapter I shall give an account of these devils, from its forming such a curious chapter of the more modern history of Asiatic medicine. Infants are supposed to be liable to be affected by nine kinds of spirits or devils, which may assume various forms at will. This results from the mother, or the nurse, having committed cer-

tain improprieties, in consequence of which the devil enters their bodies, in order to amuse himself. An infant is supposed to be distressed by a devil when it becomes depressed in spirits, and starts from fear. The eyes of the child swell, he cries, his fingers are contracted, and at other times he tears his body and clothes with his nails, and bites with his teeth both himself and nurse. The child turns his face to one side, and moves about his eyes, grinds his teeth together, makes a noise like a person who cannot speak from the severity of a disease, and frequently yawns. His eyelids and eyebrows are in continual movement; and the foreteeth and lips remain shut; and foam proceeds from the mouth. The child becomes thinner; he cannot sleep, his eyes swell; he has frequent motions, and an unnatural noise proceeds from the throat. The smell of the body resembles that of blood, or of flesh; and the child will not take his usual food. These are the usual symptoms indicating the presence of a devil.

When the child's strength and intelligence have increased, about the fifth year, his studies must be commenced, and must be regulated by the caste and condition of the individual. The youth should be betrothed at an early age, but marriage should not be consummated before the

twelfth year in the female and the twenty-fifth year of the male. Should conception take place before this age, with a female before the sixteenth year, the offspring will die in the uterus; or if born alive, it will die young, and the mental and bodily organs will be weak and defective. Intercourse should be avoided with very old or young males or females, and those labouring under chronic diseases.

CHAPTER XIII.

PRACTICE OF MEDICINE.

The description and treatment of disease is either general or special; and Susruta considers the treatment under the heads of external and internal diseases. A more useful arrangement of the peculiar opinions of the Hindu sage, will be into the diseases of the humours, those of the general system, those of the regions of the body, and trivial diseases. These subjects will be considered after a few general remarks on the Hindu views of the nature of the sickness, and their arrangement of diseases, with their cause, description, and treatment, followed by their diagnostic and prognostic signs.

SECTION I.

GENERAL REMARKS ON DISEASE.

A person is said to be in health when the elements are in due proportion; when the wind, bile, and phlegm, with the bodily fire, are in a proper tone; when the seven essential parts are uniform; the senses correct, and the mind is in an agreeable condition. The doctrine of the causes and arrangement of disease is based upon their doctrine of the elements, and is crude and imperfect, from not being founded upon any firm and philosophical basis. The nature of disease is distinguished in the shastres, by the causes, peculiar signs, and effects of certain substances, in diminishing or increasing particular sets of symptoms; and lastly, by pathology, or more properly, morbid anatomy.

The nature of disease was explained by the Hindus on the same principles as their physiology. Nature, which exhibits the highest degree of order in her operations, is liable to occasional irregularities; from the impurities and the imperfect manner in which the elements and qualities are mixed together. In like manner the harmony of the humours of the body is liable to derangement. As long as the humours remain in due

proportion, the individual remains in health, as perfect harmony reigns in the universe while the elements retain their just proportions; but, as soon as the harmony is lost, from assimilation being imperfectly performed, derangements of the system are the consequence. These irregularities in the quantity and quality of the humours are the proximate cause of disease. This is rendered more frequent by the body continually undergoing changes owing to the waste that is going on, which is made up by the supply of aliment.

At one time the derangement is owing to an increase of one of the principal humours, at another to its diminution; and thus are produced varieties of disease. The soul of the body, like the great soul of the world, tends to retard such derangements, or restore such irregularities. When disorder has been introduced, the healing power (vis medicatrix naturæ), tends to reduce the humours that are increased, and to augment those which are diminished. In like manner, certain medicines have peculiar effects in producing these changes, and thus assist the soul in her salutary agency.

Disease is therefore the derangement of the soul, caused by that of the humours. Improper food is the origin of many diseases, by corrupting

the humours, the constituent parts of the body, the functions, and active organs of the body and mind, and the secretions. The origin of disease is either primitive, without any precursory symptoms, or consecutive, with symptoms before the development of the disease.

The peculiarity of the disease is also produced by the action of the humours upon the essential parts of the body, which are the seats of the disease. Thus, when the skin is affected, it becomes changed in colour and texture, and more rough and sensitive, with the hairs more prominent; and perspiration becomes more copious, according to the humour. The *chyle* produces discolouration and rigidity of the skin, paralysis, horripilation, and excessive perspiration. When *blood* is affected, the body becomes itchy, with fever, the skin hard, with pains in the joints, swelling of the extremities, and dryness in the mouth. When *flesh* is diseased, it is attended with pain, pricking, swelling, and induration; the mouth is often parched, the perspiration is defective, and the surface of the body is rough. Patches of vesicles sometimes form, and terminate in indolent ulcers. When *fat* is affected, the hands and feet become stiff, immoveable, and ulcerated in different parts, with severe pain. The symptoms of diseased flesh

appear in some patients with this form of disease. When the *bones* and *marrow* are diseased, in addition to the preceding symptoms, ulcers form, the eyes become red, and worms are generated in the ulcers. The presence of disease in the seminal fluid is known by its transmission to the offspring of the affected individual.

It is the humours which act on the essential parts to produce disease, which become more difficult to cure, when more humours than one are affected, and derange one or more of the essential parts of the body.

SECTION II.

NOSOLOGY, OR ARRANGEMENT OF DISEASES.

The ancient Hindu medical writers arranged diseases according to their prominent symptoms, and not by their combinations, which were influenced by the structure and uses of the part. Thus, they gave the name of *shul* to disease accompanied with much pain; when accompanied with local swelling was considered as *gulma*; and more general swellings were regarded under the head of *udara*. A defect in their nosology arose

from the facility there was in forming new names in the Sanscrit language; and they became so numerous as to lead to useless distinctions. In other cases they supposed a connexion where the nature of each of the diseases and the tissue affected are quite different, and require to be treated by methods quite opposite to each other.

It was supposed that the Ayur-veda required to be carefully studied before a person could be successful as a practitioner. But so extensive is the range of the subject, that one person cannot successfully exercise all the branches, and he requires to confine his attention to one department. The classification in Ayur-veda, we have seen at page 16, is into eight divisions; a modification of this arrangement is usually followed in Hindu medical writings. In some of the most ancient MSS. a kind of numerical method was followed, and three was the usual critical number. Thus, Charaka states that there are three general causes of disease; three sorts or kinds of diseases; one of which is curable; another with difficulty, being of a chronic nature; and the third class is incurable. Each of these diseases is divided into primitive and consecutive, external or internal, local or general. These are again divided into three; when one disease has occurred and another

follows, which is increased by the first, and the medicine employed must cure both diseases, but particularly the chief one. A second variety, is when a disease has been present without any other; and a third, is when the precursory symptoms are only present. In such cases medicines are to be given, so as to remove the cause. There are three kinds of medicine; one of which cleanses internally, another purifies externally, and a third is surgical or manual.

Another classification is founded on the origin of diseases, which may be hereditary or acquired. These, however, are not divided into sporadic, epidemic, and endemic classes, although that is so natural a division. The contagious and non-contagious properties of diseases, and their being communicated from one person to another, by mediate and immediate contact, were well known to the Hindu physicians.

Charaka has arranged diseases into mental, bodily, and accidental; the former two he supposes to be situated in the semen, chyle, or blood. According to Susruta, diseases are either natural, supernatural, or demoniacal. The *natural* diseases are—1st. *Adventitious*, or accidental diseases, caused by wounds, injuries, and poisons, whether from man or animals, or produced from ex-

posure to noxious substances. 2nd. *Bodily diseases*, or those produced from generation, parturition, or the natural elements; from the climate or season, from the noxious air of the jungle, or from a morbid state of the wind, bile, phlegm, or blood locally, or generally. The accidental and bodily class of diseases may affect the mind, as well as the body; and are cured by medicine. 3rd. *Mental*, or diseases of the soul, are produced by anger, grief, fear, inordinate laughter, envy, malice, pride, lust, delusion, melancholy, &c., management of which is necessary for their cure. 4th. *Natural* diseases, which act on the mind and body, as appetite, thirst, decrepitude, sleep, and death. These four classes of diseases act eventually on the soul, as well as the body; and are cured by evacuating superfluous humours, and increasing those that are deficient, by diet, medicine, and management.

The second class of diseases are produced by supernatural powers, and the third by wicked demons.

The usual classification of disease is into seven classes: — 1st. Hereditary diseases, produced by the mother's blood and seminal secretions of the father, being affected with certain diseases, and conveyed to their offspring. These diseases are

hemorrhoides, phthisis, dyspepsia, epilepsy, leprosy, and elephantiasis.* By care and attention these hereditary taints may be retarded in their appearance, and even prevented from developing themselves. In other cases, such taints produce other diseases. 2nd. Disease of the embryo. When the mother does not take care of her food, exercise, &c., this class of disease is produced, and the infant may be born blind, deaf, dumb, dwarfish in size, &c. 3rd. Derangements of the humours caused by intemperance, produce diseases of the stomach and of the intestines; some affect the whole body, others only the mind. 4th. Accidental, as those caused by a wound, poison, &c. 5th. Diseases caused by cold, heat, rain, storms, &c. 6th. A class of diseases of the most loathsome appearance and incurable nature are supposed to be produced by the abuse of the deities or Brahmins, the contempt of spiritual preceptors, and other heinous offences. Such can only be cured by a course of severe and long-continued penance, by mysterious performances, and liberality to the sacred Brahmins. In the present day, these causes are some times believed to be so aggravated that self-immolation is alone sufficient for the purification of the individual, as in cases

* Manu, p. 60, ch. iii, s. 7.

of leprosy, &c. It frequently happens that these miserable and deluded persons drown themselves in the sacred stream, as an expiatory sacrifice for their supposed sins. Another division of this class of disease is produced by contagion; as by contact, by breathing the same air, eating together, sitting upon the same seat, wearing the clothes or ornaments of a person labouring under the leprosy. In this manner leprosy may be propagated. 7th. Natural diseases give pain to the soul; such as thirst, appetite, age, sleep, and death. This class is again divided into the timely and untimely. When the principal humours *(dhatu)* are deranged, the disease is called by the name of the humour affected; such as chyle diseases, among which are dyspepsia, &c.

SECTION III

ÆTIOLOGY, OR CAUSES OF DISEASE.

Charaka states that there are three objects of enquiry in this world; the first and chief being the means of preserving life; the second, the means of

acquiring the necessaries of life; and the last, the means of obtaining happiness. There are three means of preserving life: proper food, sleep, and the proper government of the senses and passions. The means of acquiring riches are such as are not at variance with virtue and religion; such as husbandry, mercantile transactions, and the service of government. We should not envy the wealth of others, but strive to follow a good and prosperous example; and the acquisition of happiness in this and in another world, is to be obtained by study, by a virtuous marriage, by performing the prescribed sacrifices, by governing the passions, and by avoiding envy, and evil thoughts, by veracity, by hospitality to strangers, by the society of the learned and good, and by prayers to God. The general cause of disease, arise from the five elements, acting through the organs of sense, such as vision, smell, sound, taste, and touch; the second from improper food, or exercise, and the third from the climate and seasons. These causes vitiate and corrupt the organism, or destroy life. Thus diseases are caused by improper exposure to too much, or too little light; as by looking at the sun blindness will be produced; by bad odours, or by dyspepsia; by too severe or too little exercise, by other diseases. We see hæmoptysis produced by

carrying heavy weights; and by great cold and humid air diminishing the bodily fire, &c.

The irregularities of climate and season affect health, particularly the wet autumnal season, by accumulating corrupt humours. The beginning and end of winter, and the spring and summer produce an irritation of the body, which becomes the cause of disease by corrupting the humours, by producing congestions, irritation, or weakening action; in this way, cholera, fever, dysentery, &c., are often produced.

The remote causes of disease are those produced by sins, probably committed in a former state of existence; or by the derangement of wind, bile, phlegm, and blood, either singly or combined. The former is only removed by sacrifices, prayers, penances, and certain gifts; the latter class by remedies. A third class are produced by a combination of sins, and a derangement of humours; these are to be cured by prayers, and a proper course of remedies.

Sin is to be suspected as the cause when a disease is not cured by the means pointed out by the shastres. These diseases are named *karmja*; and if the disease be incurable, let the patient advance in a straight path, towards the invisible north-eastern point, feeding on water and air, until his

mortal frame totally decay, and his soul become united with the Supreme being.*

The exciting causes of disease are organic wind, fighting with strong men, too much exercise, venery, much study, especially at night, severe cold, the rainy season, dry, astringent, bitter, or pungent food, fasting, &c. The exciting causes of disease of bile, are anger, grief, fear, fasting, indigestible food, acid and pungent food, &c., and the suppression of the natural evacuations of the body.

The exciting causes of phlegm diseases are sleeping in the day time, want of exercise, sweet and salt food, drinking too much fluid, and eating too much, &c. The causes of disease of the blood are the same as those producing bilious disorders, sleeping during the day, exposure to heat, too much exercise, indigestible food, improper mixtures of food, &c. Another cause of diseases is when they proceed from other diseases. In this case the original disease may disappear, leaving the new one to follow its usual course. Thus enlarged spleen, fever and dropsy, arise from piles, dyspepsia, and *gulma*.

Besides these causes, Susruta states that various other noxious things, such as hard indigestible

* Manu, p. 175, ch. vi., s. 31.

aliment, imperfectly prepared, unwholesome water, noxious localities, peculiar winds, which affect the mind, by stimulating or depressing it, irregular habits, filth, improper clothing, houses, and such like, form so many causes of disease.

SECTION IV.

GENERAL DESCRIPTION OF DISEASE.

The description of a disease by the Hindu writers is usually commenced with an enumeration of the supposed causes, situation, and deranged humours, as indicated by the symptoms; supposed to be the varieties produced by the humours affected. These theoretical opinions led the Hindu physicians to confound the accidental with the pathognomonic symptoms. They arranged diseases in unnatural groups, from a fancied connection between them. Thus, fever was considered as a type of a group of diseases, in which dysentery, diarrhœa, indigestion, &c., were arranged; as these diseases are accompanied, in some cases, with fever. At the same time, with the name of the disease are given its symptoms, its varieties, and reasonings as to its nature, with the various remedies to be

employed, so that there is no doubt as to the treatment to be pursued. Before considering the description of particular diseases, it will be necessary to treat of the indications of the morbid changes of the humours, which enter into all the diseases. By these indications the physician is able to know the increase or diminution of any of the humours, which will regulate the particular treatment which he is to follow. The seven essential parts of the body produce various diseases, by a preternatural increase, or diminution of their quantity.

1st. When chyle is increased it produces want of appetite, heaviness of the body, as if too much food had been eaten; weakness of digestion, large secretion of saliva and phlegm, langour and lassitude, stretching, giddiness, nausea, vomiting, and fever. When chyle is diminished the person is subject to diseases of the breast, his skin is pale, his body becomes light and weak, the eyes become diseased, &c. In such cases, the chyle is thin, the person has a depraved taste, is restless, and grey hairs appear early in life.

2nd. When the blood is increased, the body feels heavy; the body and the eyes have a red colour, with a burning sensation; eruptions appear over the body; and the person feels giddy, has no

appetite, and his urine is red. He is subject to piles, bloody discharges, and baldness. Females, in such cases, are subject to menorrhagia. Such a state predisposes the person to attacks of inflammation of different viscera, and the formation of large abscesses; to leprosy, rheumatism, erysipelas, &c. When the blood is diminished preternaturally the skin appears dry, the person feels a desire for sour things, is thirsty, and the vessels appear empty.

3rd. When the flesh is morbidly increased, the body feels heavy, the muscular parts increase in size, the abdomen enlarges, the person is subject to coughs and asthma, tumours form, &c. When diminished, the loins, cheeks, lips, penis, thighs, breast, axillas, hips, abdomen, and neck become thin; the whole body dries up, with pains; and the large vessels diminish in size.

4th. When the *fat* is increased, by smearing the body with oil, by eating frequently, by want of exercise, by sleeping during the day, and by increased phlegm, it gives the surface of the body a yellow shining appearance, and produces langour and lassitude, fatigue after slight exertion, thirst, perspiration of a disagreeable smell, sweet and oily urine, and an increase in the size of the belly, buttocks, neck, and breast. The person

cannot speak distinctly, as the vessels are filled, and the circulation is imperfectly performed The other essential parts, which are produced from the fat, are imperfectly developed, and the strength is diminished. Such a person is liable to attacks of diabetes and gonorrhœa, bronchocele, diseases of the lips, cough and asthma, eruptions terminating in large abscesses, fistula-in-ano, &c. In such a person, disease is always more dangerous according as the accumulated fat fills the vessels.

The causes of *thinness* are what increases the wind of the body, such as much work, debaucheries, study, fear, grief, sorrow, want of sleep, thirst, and not eating and drinking enough to satisfy the appetite. This state of the body is likewise produced by whatever diminishes the essential parts of the body, and dries up the chyle. This state of the body produces appetite and thirst, and the person is easily affected with cold, heat, wind, and rain. He is weak, breathes with difficulty, is subject to diseases of wind, to attacks of spleen, and dyspepsia, from the diminution of internal heat. In this state of the body, the parts become flabby, the joints relaxed, the body dries up, and every disease is aggravated. Various vegetable infusions, with nourishing and sweet food, are used to increase the

size of the body. In like manner, milk, curdled milk, ghee, flesh, certain laxitives, sleeping during the day, and a happy disposition have the same effect. Both great fatness and leaness should be avoided; and the middle state should be considered the most favourable condition of the body for health.

5th. When *bone* is increased in the system, it produces additions to old bones, and the teeth become large. When it diminishes, the body dries up, the patient complains of pain in the bones, and the teeth and nails become irregular.

6th. When the *marrow* is morbidly increased, the body and eyes feel heavy, the person has an increase of semen, and by drying, it causes a difficulty in passing the urine, which is increased, with pain and swelling of the bladder. When the marrow is diminished the semen diminishes, and there is pain in the bones, which feel empty.

7th. When the *semen* is increased, there is an increased discharge, and calculi form. Its diminution is accompanied with pain in the penis and testicles, and the person has no lascivious desire.

In all diseases, either some organic part or some function is affected; and by degrees, the excretions become diseased, and produce a variety of morbid symptoms.

1st. When the fæces are increased, there is a swelling, and noise in the belly, with pain; and when diminished, there is pain in the breast and side, and the wind makes a noise in the upper part of the abdomen.

2nd. When *urine* is increased it produces pain in the bladder, there is a frequent desire to perform micturition, and the evacuation is copious. When diminished, there is pain in the bladder, and the urine is scanty and high coloured. Whatever increases the dejections, removes these symptoms.

3rd. When the *perspiration* is increased, it has a bad smell, and a small eruption appears over the body, which is itchy. When it is diminished the roots of the hair become rough, the skin dries, and the touch is defective, and depraved. Rubbing the skin with oil, and substances which increase perspiration, will remove these symptoms.

4th. *Menses.* When morbidly increased, this discharge has a bad smell, and is accompanied with pain, fulness of the breasts, and a copious discharge, with weakness. When diminished, the discharge is scanty, and does not take place at the usual period, and there is pain in the uterus. Those medicines which have the qualities of the sun are to be used, to remedy such deficiencies.

5th. When the *milk* is increased in quantity, the mammæ are large, with pain, and there is a frequent discharge of milk. When preternaturally diminished, the mammæ are small, with little milk. Such medicines should be used, in these cases, as increase the phlegm.

6th. *Diseases of Vitality.* Vitality is supposed to be the last formed of the humours, and is the chief. When weakened the person dries up, and without it the person dies. In some situations vitality is strengthened, and at other times weakened. It may be weakened by injuries, by a diminution of the seven dhatu, by anger, grief, fatigue, low spirits, and fasting. When it changes its position, it produces a relaxation of the joints, so that the person cannot move or work, and wind, bile, and phlegm are diminished. The person is heavy, swollen, languid, depressed, and sleepy. The colour of the body changes, syncope occurs, the flesh diminished, and debility and death ensue. In such cases the body must be strengthened, and the patient should avoid violent exercise, and bitter, cold, dry, and constipating articles of food. The body should be anointed with ghee, oil, and turmeric; bathing should be encouraged, and light nourishing food recommended.

SECTION V.

GENERAL TREATMENT OF DISEASE, (*Chikitsa.*)

The list of Hindu remedies contains many that are inert or useless, and others that are valuable. According to the Hindu theory, the harmonious action of the elements of the body, and their qualities, constitute health; and the increase or diminution of one or more of the humours, formed from the elements, produces disease; and reducing the humours when superabundant, increasing them when wanting, and regulating the vital principle, in the completion of assimilation, were the principles upon which their system of cure was based. For accomplishing these objects, a strict regimen was enforced, and certain articles of food were recommended, and particular medicines exhibited, to rectify the deviation of the elements from the healthy proportion. The management of diet was the chief means of accomplishing these ends; and the diet was regulated in point of quality, quantity, and time of administration, by the nature of the disease.

As the ancient Hindus led a temperate life, they relied much on diet and regimen. "There is a class of physicians," according to Magas-

thenes, "among the Germanes (Brahmins), who rely most on diet and regimen, and next, on external applications, having a great distrust of the effects of more powerful modes of treatment."*

According to Professor Wilson,† the ancient Hindus had a number of works on the food and general treatment suited to the complaint, or favorable to the operation of the medicines administered. "If the patient did not attend to his diet, a hundred good medicines would not remove the disease." The regimen, the food and drink for the individual and season, the vessels in which they should be kept, the house he should reside in, the time he should sleep, were carefully explained. Such peculiarities pleased the friends, and were useful to the patient.

When the judicious selection of food did not succeed in curing the disease, or when it was too severe, the person was directed to observe an entire abstinence of food for a certain time, and if this failed, the corrupted humours were ejected from the body,‡ either by emetics, purgatives, or blood-letting. In like manner, when the disease was subdued, it was supposed to be necessary to expel all the vitiated humours;

* Strabo lib. xv. † Works, vol. iii, p. 27.
‡ Diod. Sic. I. i. 81.

a relapse of the disease would be the consequence. To prevent this, drastic purgatives were repeated daily, until the physician was satisfied that the whole corrupted humours were expelled. To prevent a recurrence of disease, the same evacuating means were employed. But these humours were not to be dislodged indiscriminately, but at certain seasons and diurnal periods of the disease. Health was thus supposed to be promoted by the exhibition of an emetic once a fortnight, a purgative once a month, and blood-letting twice a-year, at the change of the seasons. The vital principle was supposed to give warning when the corrupted humours were ripe for being evacuated; and the physician was direct to observe carefully, so as to be able to assist, and not disturb the spontaneous efforts of nature. The seasons in which she exhibited these beneficial influences, were supposed to be determined by the known cause of the disease, which led to the belief of the definite course, and the mystical powers of numbers; by which nature might be invariably observed to arrive at certain determinate results, which were supposed to be regulated by an arithmetical progression. This led to the belief of the maturation of the diseased humours, and of the existence of periods in which the perfect state of mixture

takes place. These were called critical days, which have long held a place in the pathological belief of physicians. These days were recognised by the Egyptian priests, as related by Pythagoras and others, and denoted the time at which the due admixture of the elements had taken place. The same term, *crisis*, was employed by Hippocrates and adopted in Europe, when the humoral pathology was the fashion. So plausible were these opinions that they seem to have been at one time generally believed; and the use of the most pernicious preventive means followed, over a great part of the globe, and among nations so separated from each other as to preclude the probability of their having derived them from each other.

Another equally plausible opinion was, that all diseases divide themselves into sthenic and asthenic classes of disease; the one arising from an increase, and the other from a diminution of excitement, between the extremities of which health was supposed to be placed. This appears to have been an early opinion among the Hindus, is now generally believed throughout all the Asiatic nations, and has led them to the division of remedies into stimulating and cooling, which were employed according to the nature of the disease. For the hot or sthenic diseases cooling remedies are used;

while hot medicines are exhibited to remove cold or asthenic diseases. To one class of stimulants belong pepper, bitters, purgatives, &c.; and to the cooling remedies, cold, pawn mixed with lime, bathing, with several excellent stomachics, as *cherayta*, &c.

Susruta arranged the treatment of disease according as they were cured by regimen, by manual treatment, or by medicines; and remedies were also classified, as emetics and purgatives, which cleanse the body; oils, diaphoretics, and bathing, which purify the external surface of the body; and fire, escharotics, and cutting instruments, which remove diseased parts of the body.

In the cure of internal diseases you must first consider the disease itself, which is either curable, dubious, or incurable; the season of the year, and state of the organic fire; the age, as whether a child, when phlegm prevails; an adult, when bile, or a person in old age, when wind is most liable to predominate. The practitioner will next consider the body of his patient, whether it be fat, lean, or between the two, which must exercise a considerable influence on the cure; as also the degree of strength or weakness; a well-regulated is more easily cured than a weak mind; and the disposition and temperament of the individual, the

employment of aliment, and the exhibition of suitable remedies, will all produce their effects on the body.

SECTION VI.

DIAGNOSIS (*Nidana*).

The enlightened *Rishis*, who prepared the shastres, defined and distinguished the symptoms with great accuracy, by examination, assisted by analogy, thought, and a knowledge of the *Ayur-veda*, by which the physician finds out the nature of the disease his patient is labouring under, the medicines to be ordered, and the regimen to be followed.

The nature of the disease is to be ascertained:—1st. By the appearance; as the countenance, tongue, &c. 2nd. By the feeling; as the pulse, temperature of the body, &c. 3rd. By questions; embracing the country, temperament, and history of the disease: or the disease is known by means of the five senses, and by asking questions. Thus:—1st. By *hearing* he will distinguish the state of the lungs, by the peculiar noise of the breathing. 2nd. By the *touch* he will mark the

state of the body, as to cold and heat; and the state of the skin, as to its hardness or softness, roughness and smoothness. 3rd. By the *sight* the physician will know the largeness and smallness of the body, with its colour, whether pale, yellowish, darkish, &c. 4th. By *taste*, he will distinguish diabetic urine, &c. 5th. By the *sight* and *smell*, he will judge of the different discharges from the body. *Lastly*. By *speech*, whether weak or loud; and by *questions*, he will find out the country and temperament of the sick person, the sex, the manner of life, and the history of the disease, the pain felt by the patient, the degree of his strength and appetite, and the state of his evacuations.

These observations are all most necessary, in order to arrive at a true diagnosis; and without knowing the disease the physician will be unable to employ the proper means for its cure.

Pulse. Nothing is said by Charaka and Susruta regarding the pulse; its condition appears to have been considered of little importance; and the remarks on the subject are given under the head of the particular description of disease.

The remarks on the *urine* in the ancient shastres are made under each disease. It is recommended to be examined in the morning, and received into a clean vessel. When changed by the increased

quantity of wind its colour will be gray, and it will cause a slight smarting when voided. If changed by an excess of bile its colour will be red, and it will produce pain at the glans penis at the time of being discharged. When phlegm predominates the urine will be white, thick, and frothy. In such cases the sick person will be of a weak and melancholy habit of body. When two or three of the humours are diseased, the urine will take the colour of the peculiar mixture.

Tongue. When an increase of wind occurs, the tongue turns to a dark yellow colour, becomes uneven, and rough, and the papillæ are prominent, like those of a cow's tongue. When an increase of bile takes place, the tongue becomes of a red or brown colour, and becomes rough; and when an increase of phlegm occurs, the tongue becomes of a white colour, with a thick coating, and moist. When the three are deranged, the sick person's tongue becomes black coloured, and sometimes very rough. When two are deranged the symptoms of two states are observed. When the patient is dying, the tongue is straight, and becomes dry, pale, and shining. In such a state a very few grains of life remain.

SECTION VII.

PROGNOSTICS.

As a flower prognosticates the future fruit, smoke the extent of fire, and the clouds the near approach, and the severity of the coming storm, so certain symptoms prognosticate the favourable or fatal result of a disease. These signs, however, are often but slightly apparent to the general eye, and can only be detected by the eye of an experienced physician. In some cases, the death of the patient having fatal symptoms, may be averted by the intercession of holy Brahmins, or by the use of medicines which produce longevity. An accomplished physician should study prognostics, and make allowance for the cure of certain cases. He may otherwise boast that he will cure complicated, or incurable cases, by which he will lose his credit.

The prognostics of disease are either favourable or unfavourable, and depend on various circumstances in each particular case; these are known from the messenger sent, from collateral circumstances, and from the symptoms of each disease.

When the messenger finds the physician sitting in a clean place, with his face towards the east,

and the messenger has in his hands a water-pot full of water with an umbrella, they are favourable signs.

Should the physician, on passing to the patient, see a woman with her son, or a cow with her calf; or a virgin well dressed and adorned with jewels, or see fish, or unripe fruit, butter-milk or flowers; or meet a rajah, or see a strong fire, or a horse running, or a goose walking, or see and hear peacocks, these prognosticate a favourable result to the patient's disease.

If the physician sitting by the side of his patient, notices the patient rubbing one hand against another, scratching his back, answering questions with his face upwards, drawing the bed-clothes, or shaking his hand, or constantly moving his head, or puting the physician's hand to his breast or head, are unfavourable signs.

Attention to the position of the stars, gives considerable information regarding the fate of the patient.

The severity and nature of the disease will depend on the nature of the essential parts of the body affected. While the skin, flesh, and blood are affected, the phlegm and wind are the humours diseased. When the three humours are not affected, and marrow alone vitiated, the disease admits of

relief, if not of cure. When the fat, marrow, or bone is affected, and two or three of the humours are vitiated, one of them being the bile, the disease is incurable. A complicated disease is always more difficult to cure than when a single humour is affected, or a single disease is present. The eight most severe forms of disease are, nervous disease, as tetanus, paralysis, &c., gonorrhœa, leprosy, piles, fistula-in-ano, stone, unnatural presentation of the fœtus, and dropsical swellings of the abdomen. These eight are the most severe diseases, and are cured with great difficulty.

In general the prognosis is to be favourable when the patient takes his medicine without aversion; when his voice remains unaltered; when during his well days his pulse is clear and perceptible; when his tastes are natural, and he keeps himself cleanly while asleep; when he awakes from sleep without agitation; when eating rather cools than heats his body; when the hands and feet do not hang inertly by him; when the respiration is free, and he does not expectorate too much phlegm; and when he does not forget his god, but prostrates himself daily in prayer with humility and resignation. The unfavourable symptoms are the opposite of the above, with indigestion, irregular and obstructed excretions,

headache, redness of the eyes, loss of voice, and the generation of worms in wounds and ulcers, from which bloody and fœtid discharges proceed.

If in any disease the patient is very thin and weak, with difficulty in breathing, thirst, dryness of the body, vomiting, and fever, these are bad symptoms. If fainting, diarrhœa, or hiccough, occur in the course of the disease it will not be cured. If swelling of the body occurs in nervous disease, without feeling in the skin, with shaking, or swelling of the feet and abdomen, or scrotum, with wind accompanied with pain, or other such symptoms, the disease will destroy the person.

If the white part of the body suddenly becomes black, without any previous cause, and the blood changes its colour, it is an unfavourable sign. When the pulse becomes unsteady and intermittent; when other internal parts do not remain in the usual condition, whether that be rest or motion; when any large organ diminishes in size or becomes larger; so that what is long becomes short, or short long; when that which should be discharged remains, or that which should remain is discharged: or if the members naturally hot become cold, shining become dull, red become pale, moist become dry, are dangerous signs. When members cannot move, or have an unnatural

smell, or cannot perform their office, or are removed from their natural position, if they open, or are discharged outwardly, or inwardly, are heavy, or light, the person will soon die.

If in the morning perspiration occurs on the forehead; or if tears are always falling without any disease of the eyes; if the dandriff in the hair is of the colour of powdered cow dung: if a pigeon, &c., perches upon the head of the person; if, without eating, there is a great discharge of dejections; or if there are no dejections, though the person eats freely; or if he has a total want of appetite for food or drink, with constant coughing and yawning, it is deadly. If the chest, mammillæ, or trunk swells, and the extremities become thin, or the contrary; or half of the body swells; or half becomes paralysed; if the person cannot speak, or the voice is diminished, or changed, these are signs of danger. The same is the case if the nails, teeth, mouth, or body, have the smell of putrid flowers; if the sputa, dejections, or semen sink in water; if the person sees objects imperfectly, or multiplied; if the body and hair have a shining appearance, as if covered with oil; if the person is very weak, without appetite, or has dysentery with cough, much appetite and thirst, or if he is weak with vomiting, especially if

the sputa be mixed with blood. Should the feet, hands, and lips be swollen, while the buttocks, legs, arms, and shoulders are diminished in size, and the person is weak with fever, cough, and loss of appetite; if he vomits his breakfast in the evening, is dejected, has gnawing pain, fever, and cough; if the person falls, producing a sound like that of a goat, has no strength or feeling in the testicles; or if the head falls on the shoulder, the danger is great. If the chest dries first after bathing; if the person is always biting his under lip or tongue, and pulling his ears or hair; or if he considers the gods, Brahmins, and his master, friend, and physician as his enemies; these are fatal signs. If the aspect of the planets is unfavourable; if the stars fall, or thunder occurs on the day of the ascent of the star under which the person was born, it is unfavourable.

If the physician has examined properly the person, and finds the disease increasing, and the person feeble, he will not recover. In the course of gonorrhœa, if any considerable morbid discharge from the *urethra* takes place, and there is much fever, and a great flow of urine occurs, it will be fatal.

The dangerous symptoms of leprosy are, when the body is covered with sores, from which pus,

blood, &c., are discharged; when the members drop off, and the eyes are of a red colour, with hoarseness of the voice. When such patients are not able to bear the five forms of treatment, (purgatives, emetics, diaphoretics, injections, and blood-letting) the disease will be fatal.

If in the course of piles, the patient has dyspepsia, pain in the abdomen, with much hæmorrhage, dysentery, and swelling of the extremities, the disease will be fatal.

If in the course of fistula-in-ano, wind, urine, dejections, worms or semen are discharged from the fistula, the patient will die of the disease.

The fatal symptoms of stone in the bladder, are swelling of the umbilicus, and of the scrotum, with great pain in passing the urine, which is mixed with gravel.

The fatal signs of complex labour are the presence of tumours or polypi in the vagina, which prevent the passage of the child; unnatural contraction of the vagina, &c.

The fatal symptoms of a dropsical swelling of the abdomen are as follows:—having no feeling in the sides, loss of appetite, and dysentery. If, after purgatives, the abdomen again swells, the person should be considered as incurable.

If a person with *fever* does not see, is insensible,

sleeps without any movement, is internally hot, with an external feeling of cold, he will die. When the hairs become prominent upon the body, the eyes red, and the breast very painful, and the breathing is by the mouth, such a fever will be fatal. If there be hiccough, much thirst, insensibility, eyes fixed, or moving involuntarily, difficult and noisy breathing, with great weakness, the fever will be fatal. If the eyes become muddy, and the person cannot see, and sleeps much, with great weakness, and loss of strength and flesh, the fever will be fatal.

When there is with dysentery, difficulty of breathing, great pain, thirst, weakness and fever, the person will die, particularly if old.

Phthesis, with cough and bloody expectoration, whiteness of the eyes, no appetite, difficulty of inspiration, diarrhœa, and a copious flow of urine with pain, will be fatal.

When *gulma*, or colicy pains, from a collection of wind in the abdomen, which feels like a moving ball, are accompanied with difficulty in breathing, thirst, no appetite, and weakness, the disease will be fatal.

If internal abscesses of the abdomen *(bidradhi)* are accompanied with swelling, without any discharge; and if the person vomits, has hiccough,

thirst, pain, and difficulty in breathing, he will die.

Jaundice. If the teeth, nails, and eyes are yellow, and everything seems so, in such case the disease will be fatal.

In hæmorrhage *(raktapet)*. When the person vomits blood, has his eyes red, and when everything appears red to him, the disease will be fatal.

Madness *(unmáda)*. If such a patient always stoops or keeps his head raised, is thin, weak, gets no sleep, and has no fear, he will die.

Epilepsy. If the fits occur frequently with weakness, the eyelids always move about, and the eyes become unnatural in appearance, the disease will be fatal.

The signs of death are as follows:—

Sight. When the person imagines he sees red, black, or yellow colours before his eyes; and it is also a fatal sign when there is a failure of sight, or the eyes become small, sunken, and unequal; and when they are of a red colour, and are staring and immoveable; under such circumstances a flow of tears is also a fatal sign.

Mouth. When there is a falling of the under, and rising of the upper lip; when they are crooked, and are of a dark blue colour, the person will die.

When the teeth become reddish or dark coloured, or fall out, or are of a grayish colour, with an unsteady or intermittent pulse, the person will soon die.

Tongue. When the tongue is of a black colour, and extraneous matter appears upon it, or it cannot be moved, or is dirty and swollen, or its papulæ are very prominent, with fetor of the breath, the patient will soon die.

Nose. When it becomes pale, dry, and shining, and is turned to one side; when the nostrils are extended, dry, and dirty, and the passage of the air produces a noise; or when the point of the nose retracts, and is flattened, with weakness and depression, the person will soon die.

When, therefore, the eyes, by which we see; the ears, by which we hear; the tongue, by which we taste; and the skin, by which the perception of heat and cold is performed, are defective, or differ from the state of health, the patient should be considered in a dangerous state.

Hair. If it falls naturally in a line on each side (as in women), and the eyebrows become contracted and repressed, and the patient pulls his eyelashes, the person will soon die. Should such a person have no disease, he will die within six, and if diseased within three days.

If the person cannot swallow, if he cannot move his head, has no memory, remains at rest, and is insensible, he will soon die. Whether strong or weak, should he faint on being raised up, the person will die.

If a person diseased sleeps with his face turned upwards, and he is continually stretching, with spasmodic contraction, and bending his legs, he will soon die.

When the feet and hands are cold, and the person breathes quickly and irregularly, or keeps his mouth open, like a crow in hot weather: such a person is not to be treated by the physician, as he will die. If a person always sleeps, or he is always watching, and cannot speak, the physician is not to give medicine.

When the tongue is always moving along the upper lip, with continual hiccough; or when a person is constantly murmuring, or speaks incoherently to another person previously dead, he will not live. If blood flows from the pores of the hair, and the natural openings of the body, without poison, the person will soon die. When the hysterical ball from wind, occurs in the breast, and prevents the swallowing of food, and the pain extends, and there is no appetite, the person will die. If an unusual swelling in the feet occur in the course

of a disease in a man, or in the face of a female, it will destroy the person.

If in consumption, dysentery, asthma, fever, hiccough, vomiting, and swelling of the external urinary organs occur, the person will die. If such a sick person has much burning over the body, or much perspiration, hiccough, difficulty in breathing, even though a strong person, he will die. If with the yellow or black tongue, the left eye be sunk, with bad breath, the person will die. If the mouth be filled with tears, the hands and feet perspire, and the eyes lose their shining appearance, and become dull, it is a sign of death. If the person swells or becomes thin very quickly, he will die. If the smell of the body resembles clay, fish, fat, oil, or other unnatural scents; or when lice leave the hair, and come to the forehead, or animals will not eat the food the patient has left; and the patient is very restless, he will die. When fever, dysentery, and swelling of feet, or hands, occur alternately, it is unfavourable; should the person lose his strength suddenly, he will not live. When the patient has no appetite, has frequent stools, with severe pain in the head, and thirst, the person will die, if these are combined with other bad symptoms.

It is also a bad sign when the patient is very

weak, with thirst and hunger, which is not appeased by the usual quantity of food or drink; and should a practitioner cure any patients with the above indications, he deserves to be physician to a king.

As death approaches, the good qualities of the medicines which are administered to a patient are lost, and the treatment and care of the physician are alike unavailing.

Many of these remarks are just, and some of them are too much neglected by European physicians. The *Cabiráj* remarks sometimes with justice the errors which they fall into, in consequence of neglecting the study of the prognosis of diseases.

CHAPTER XIV.

DESCRIPTION AND TREATMENT OF PARTICULAR DISEASES.

These will be arranged as diseases of humours, of the general system, of the regions of the body, and trivial diseases.

SECTION I.

DISEASES OF THE HUMOURS.

The apparent actions and changes of the fluids, or humours of the human body, attracted the attention of the Brahmins at an early period, and upon these changes they founded their theoretical speculations regarding the nature and production of disease. These opinions seemed to be confirmed by the occurrences of hæmorrhage from wounds, the appearance of certain eruptions, and the discharge from abscesses and ulcers; while the solids, in these cases, seemed passive, with no indications of change beyond what the fluids seemed to produce upon them. Hence the general principles of pathology were based, by the Brahmins, on alterations of the fluids only, and they supposed that while their elements and qualities remained in due proportion health was sustained; while disease was produced by an undue proportion of one or more of these humours.

The diseases of wind, bile, and phlegm may proceed from the semen of the father, from the menstrual blood of the mother, from the state of the mother's body during utero-gestation, from certain food acting in the same way, from habits of exer-

cise, from the state of the parts in which the fœtus is retained in the abdomen, and from the state of the menses at the time of conception. These causes derange the humours and produce the individual's habit of body, and the kind of disease to which they are subject.

In the embryo state, the humours are in such a state that they do not interfere with the action of each other, as the serpent's poison does not injure the animal itself. But in the course of life different causes interrupt this harmony; and various changes regulate and determine, at all times and seasons, the health and morbid condition of the human body.

The diseases of the humours may be arranged according as they affect the wind, bile, and phlegm, and their combinations.

The different seasons predispose to different diseases; the wind of the body is liable to be deranged in the two rainy and two hot months; in the two months before the cold weather bile is liable to be deranged; and during the cold months, the bile remains in health, while the diseases of phlegm are common, and increase in spring.

Order 1. Wind is supposed to produce eighty varieties of disease, divided into two classes, causing increased or diminished action. It pro-

duces grief, depression of spirits, laziness, covetousness, and pride; with pains in the eyes, ears, breast, joints, arms, thighs, testicles, forehead, temples, cheeks, teeth, and eye-brows. As wind is supposed to perform the active functions of the body, it regulates the pulse, propels or retards the action of parts, as of the fœtus-in-utero, the dejections, &c. Hence, when too active it produces diarrhœa, &c., and when too weak, a constipation of the bowels, &c.

The causes which derange wind are fighting, abstinence in eating and drinking; the use of dry food, falls, watching when the body is wounded, great discharges, as of blood, semen, &c. Derangements are also produced by constipation of wind, urine, and dejections; or when they are not evacuated at the proper time. Too frequent bathing, great grief, fear, or exposure to cold; dry, astringent, and sour articles of food, and much moisture in the air, produce this class of disease. The wind is also increased when the food is digested, and when the evening approaches, on cloudy days, and during the two hot months; is subject to derangement in the two rainy months, and is diminished in the two following, or damp months.

The indications of derangement of the wind,

are a swelling and uneasy sensation about the abdomen, with stiffness of the body; the surface of which is dry, rough, and cracked. The person feels pain in different parts of the body, sometimes as if needles were run into the skin; is low-spirited, languid, and fatigued, has shivering fits and spasms; the hairs of his head are erect, and bend backwards and forwards; with other irregular movements of the body. The voice becomes altered, and the person dreams in his sleep; and when awake he speaks without thought, feels a singing in his ears, loses the power of vision, has no memory, with paralysis of one or more of the members. There is a dryness of the mouth with thirst; the body becomes of a red or a green colour, and he complains of an astringent taste in the mouth.

Diseases of the wind will vary according to its situation and use. The vital air for the mouth, which assists in swallowing, produces, when disordered, hiccough, vomiting, &c. The air we breathe produces asthma, consumption, faintness, drowsiness, and vitiated taste, &c., when diseased. The vital air in the *stomach* produces vomiting, anxiety, fainting, thirst, and pain in the chest and side. In the *intestines* it produces noise along their course, pain in the navel, with costiveness,

scanty urine, and flatulence, &c.; in the *ear* it produces deafness; in the *integuments*, a discoloration, roughness, and sometimes diminished sensation, and pain and eruption over the skin. When deranged in the *blood*, it produces pain over the body, heat and discoloration of the skin; and dryness of the body; with loss of appetite, inactivity, painful eruptions, and tumours. When deranged in *fat*, it produces tumours, without pain. In *vessels*, it produces a contraction of their size, with pain and fulness. In *nerves* and *tendons*, it produces paralysis, with shaking, pain, and spasm. In *joints* it produces stiffness, pain, swelling, and emaciation; in the *bones* it produces pain and emaciation; in the *marrow* it causes acute pain; in the *semen* it produces a morbid discharge, or a diminution of the secretion; and when deranged over the body it produces a bluntness of sense, paralysis, spasm, swelling, and pain in many parts of the body. It produces various other classes of symptoms, according to the parts of the body which are principally affected.

The chief diseases produced by deranged wind are fainting and leprosy. This last disease commences in the limbs, with dark blotches, and insensibility of the part. It produces rigidity of parts, by which the body is drawn to a side, or

backwards and forwards; and there is another form of the disease called *hunus tambha* (Tetanus, Trismus.) It affects particularly the lower jaw and face, drawing the neighbouring parts to one side. *Chorea* is, according to the *Nedan* and *Susruta*, produced by derangement of wind. This disease is characterised by the person first feeling a trembling or shivering over the body, with dimness of sight, and pain in the neck, jaw, and teeth, or any other part about to be affected. These symptoms are followed by convulsive twitchings of the head, neck, and face; and of one side of the body, particularly one leg. These parts are pulled to the side affected, and shake involuntarily, and the affection may extend to all the voluntary muscles of progression, producing a dancing motion. The muscles of the upper or lower extremities may thus be affected, of one or both sides, and when the disease has extended over the whole body, and continued long, it is considered incurable. It is supposed to be produced by irregularity of the bowels, from having eaten indigestible food; which produces costiveness and indigestion. Much talking and laughing, carrying heavy loads, and other causes deranging wind, produce this disease. *

* Some Sanscrit books apply the term Ardita to Chorea, others apply it to Tetanus or Trismus, which they describe, and not the true Chorea.

When the wind is superabundant it may be diminished by cold, and by articles of food having this property; by strengthening food, which on being digested, remains long in the vessels, such as ghee, the flesh of goats, &c., masculi, salt, sweet, or acid food; by shampooing; by anointing the body with oil, or taking it internally; by drinking sherbets; by bathing; by medicines which increase the semen, alvine secretions, urine, and perspiration; which remove thirst and appetite, and render the body more active.

When wind is diminished the person cannot work, he speaks little, is unhappy, and his judgment is impaired.

Order 2. Derangements of bile are supposed to produce forty different diseases. They are those of a hot quality, in which digestion is increased morbidly, by the use of sour, hot, salt, or pungent articles of food; or by eating the shoots of young bamboos, and other such indigestible articles of food, which produce faintness, thirst, heat, and fever. When the appetite is not satisfied with the quantity taken, or the person eats before the food previously consumed has been digested; when cold curries are eaten; when curdled milk, wine, or rice-water are drunk; when the person is provoked to anger; in hot weather, especially during

the months of September and October; in the commencement of the cold season, and in the middle of the day, and the middle watch of the night, bile is increased. This produces a disagreeable breath, hot and sour eructations, with boils over the body. The person is subject to fits of anger, and has no memory, but is otherwise intelligent; the bowels are open, the skin is of a dark-yellowish or grey colour, the body hot, the perspiration copious, ; and although he eats he has no appetite, but is thirsty. He does not see distinctly, and staggers as if drunk; he has a dislike to particular kinds of food, which become sour, bitter, and sweet in the stomach. The colour of the body is unnatural, being pale and yellow with pain over the body. Bile is diminished by eating sweet and bitter articles of food; by remaining in cool shaded places, by night air, and moonlight; and by sitting upon the ground, in water, or exposed to mists. It is also diminished by the use of ghee and milk; by those medicines which increase the discharge from the mouth, nose, and eyes; by blood-letting, and whatever diminishes thirst and appetite. When so diminished the internal heat is weakened, and the body has an unhealthy appearance.

When wind is deranged with bile it produces in-

flammation and fainting; with phlegm, coldness and swelling of the affected part; with blood it produces a degree of pain like the penetration of a needle, sometimes deprivation of healthy sensation, and other symptoms of deranged bile. When the *prán báyu* is deranged with bile, it produces vomiting, a burning heat of the body; with cough, weakness, idleness, drowsiness, and discoloration of the skin. When the *udána báyu* is deranged with bile, fainting, a burning heat of the body, want of memory, phlegm, want of perspiration, anxiety, indigestion, and shivering are produced. Deranged *apana bayu* with bile produces perspiration, heat and inflammation, and bloody urine; with phlegm, mucous stools, and urine of a pale colour, with shivering. *Samana bayu* deranged with bile produces inflammation, perspiration, and heat of the body, and in the female a retention of the menses, with phlegm and fainting, followed by constipation. *Biana bayu* deranged with bile produces a burning heat and restlessness of the body, with cough, heaviness of the body, and pain, so that the person cannot move as he wishes.

Order 3. *Phlegm* is deranged by sleeping during the day, by indigestible articles of food, and sweet, or very cool things; such as milk, sugar-cane, liquid food, curdled milk, or by the cakes

made of rice, cocoa-nuts, old ghee, &c. These derangements are more liable to occur in the dewy, cold, and spring months, during the first third of the day and after eating, at the commencement of the hot season, or season of mists, and during the two following spring months.

The derangements of phlegm produce twenty different diseases; causing fulness and uneasiness in the abdomen, while the food eaten is not properly digested. The patient has no appetite, and his body is pale, heavy, cold and hard. He has frequent dejections; his skin is smooth, oily, and itchy. There is a discharge of mucus from the nose, eyes, and mouth. Such a person is languid, is always dozing, and sleeps much; the part where the phlegm is deranged swells, and his mouth has a pungent and sour or sweet taste: escharotics and hot medicines rubbed over the swollen part will remove these swellings.

The cure of these derangements is accomplished by the use of dry food, alkalies (salts), astringents, exercise, and the use of bitter and pungent articles of food; by the exhibition of emetics, by sexual connexion, long pedestrian journies, gymnastic exercises, watching at night, smoking, and the use of cathartics, and diaphoretics.

When *phlegm* is diminished in the body it is

known by its being dried up, with a feeling of internal heat; the organs for receiving the food, and discharging the dejections, seem empty; the joints are small and soft, and the patient complains of thirst and weakness, and cannot sleep. These symptoms are cured by exhibiting those remedies which increase *wind*.

Order 4. *Complicated diseases of the humours.* Should two or three of these humours be deranged, at the same time, the particular symptoms of each will be present. There are upwards of sixteen varieties from the degree of derangement of the one compared with that of the other, which will be known by the prominence of particular classes of symptoms. Their treatment must likewise be varied according to the violence of the symptoms present. When the body is weak the most peculiar symptoms of the deranged humour do not appear, and the person seems in health.

The diseases of wind, bile and phlegm, are also produced by sin, which leads the person to perform wicked actions from ignorance. Such diseases of the humours produce not only diseases of the body, but also those of the mind and heart, as melancholy, pride, foolishness, &c., &c. The derangements of the wind, bile, and phlegm, may proceed either from the state of semen of the father, or the blood of the

mother, or from the state of the body during pregnancy, from certain articles of food eaten, improper habits, exercise, or the like. These were the diseases in which internal evacuant medicines were used, after which the treatment was regulated by the part affected: thus, when the skin was affected, external applications were used, as ointments, plasters, and unctuous medicines administered internally. While the diseases of the body are cured by medicines, which diminish the humours that are too abundant; those of the mind are cured by perusing the shasters, by abstinence, by leading a religious life, and by various mortifications of the body.

The blood is supposed to be more generally affected with the deranged humours, than with any other of the essential parts (dhatu) of the body. When so diseased, its local or general abstraction is recommended, and numerous medicines are administered to purify it. When the *flesh* is diseased, preparations of neem tree are prescribed. The diseases of *fat* are cured by various astringent and tonic medicines. The diseases of *marrow* and *bone* are considered incurable, and are consequently not generally stated in medical works. This is an example of the pernicious result of the pretended supernatural intelli-

gence bestowed by the Supreme Being upon professional practitioners.

It is consequently the duty of the practitioner to find out the nature of the disease; to decide on the best remedies so as to diminish the wind, bile, or phlegm, the seven essential parts of the body, and the dejections (*malа*) which may be preternaturally increased; and if diminished, he should endeavour to increase them so as to restore, and retain the parts, in that state of equality, which constitutes health.

When a disease is produced by the sins committed in a former state of existence; by the derangements of wind, bile, and phlegm at birth, or by any cause producing very dangerous diseases, especially in very old people; it will be cured by medicines and penances. The diseases of the poor will generally be incurable, as they are not able to procure medicines.

SECTION II.

DISEASES AFFECTING THE GENERAL SYSTEM.

These diseases are, according to the Hindu physicians, fevers, rheumatism, including gout, diabetes, scrofula, leprosy, and small-pox.

Order 1. *Fevers (jwara).* Fevers are first considered, because it is said man is born and dies with fever; because fever affects the whole body, the organs of the senses, and the mind; because various other diseases are produced by it; and because it is so severe that only man and gods can survive it.

The *causes* of all the principal varieties of fever, with the exception of five from accidents *(àgantuka)*, are using improper mixtures of food; as eating fish and milk together; the want of seasoning in food; sleeping at improper hours; fighting with a strong man; exposure to the morning sun while fasting; eating voraciously of food of a very hot nature, when the body has been previously weakened by extreme hunger, fatigue, fear, grief and watching. Fevers are also produced by poisons, by drinking stagnant water, into which withered leaves have fallen; by taking a full meal without any appetite,

or after delivery, especially if improperly treated. In other cases the first secretion of milk in the breast of the female produces fever. Other causes of fever are the influence of bad stars; exposure to unseasonable weather, or to sudden vicissitudes of temperature; visiting a new climate; checked perspiration; long continued constipation; and living in wooded, ill-ventilated valleys; and severe local diseases. By such causes the wind, bile, and phlegm are deranged, pass into the stomach, and thus expel the internal heat. The humours stop also the chyle vessels, and derange the heat, which digests the food; in other words, whatever exposes our moral qualities, or bodily frame, to deviations from their natural and accustomed movements, produces fevers; and it requires remedies to drive back the heat to its natural position, when the person is restored to health.

Fevers are generally divided into nine *varieties*, according to the supposed derangement of one or more of the particular humours implicated in the fever, and thus carrying out the peculiar theoretical notions of the Hindus regarding diseases, from which the species are with difficulty defined, and the proper treatment arranged according to the different varieties and stages. The following remarks on fever, as explained by the Hindus,

will be divided under four sections, relating, respectively, to continued, remittent, intermittent, and eruptive fevers. There are seven varieties of continued fever.

The attack of this form of fever commences with the persons complaining of lassitude and fatigue; he is continually yawning and stretching; his skin loses its natural colour, and there is a bad taste in his mouth; his eyes are watery, and he alternately wants the application of heat and cold to his body. He has no appetite, and food distresses him, as it is not digested; the body feels chilly and heavy, with dejection of mind; is quarrelsome, and is ready to fight with a much stronger person than himself.

These precursory symptoms are followed by heat of the surface, cessation of perspiration, and pain affecting the whole body, but particularly the members. There is also pain in the chest, languor and drowsiness, loss of appetite, restlessness, heaviness of the abdomen with costiveness, and a copious flow of urine. These symptoms are always present in fevers; but when wind is deranged, there is also much gaping; when bile is affected the eyes feel hot, and when phlegm is deranged there is a disgust at food.

The favourable symptoms of fever are when the accession commences with shivering, followed by

heat and perspiration; when the patient complains of thirst, moans in his sleep, is very forgetful, and the alvine secretions are constipated, with a bad smell from the cutaneous perspiration. After the paroxysm, the body is left cool, the skin soft and perspiring; the senses, including taste and appetite natural, with crops of pimples round the mouth, and on the head. The heart is natural, the body feels heavy, and the patient often sneezes; he is not so easily fatigued, and his memory becomes more retentive.

Should there occur, after the seventh day, sonorous breathing, listlessness and torpor, with thirst, constipation, hiccough, coughing, and vomiting, with no appetite, the patient is in eminent danger. In such cases the person usually becomes very weak and dies.

The most unfavourable prognostic symptoms of fever, when the patient should not be taken charge of by the physician, are when the senses are not in their natural state, or no longer act; when the person is weak, with sudden and severe attacks of fever; when the patient is decrepid, his extremities swell, and the fever remains during a greater part of the night; when he is affected with strabismus, and when his mouth remains open, and he is delirious. When he cannot be roused from his

sleep, or when he has a feeling of cold on the outside of the body, while he feels hot inside, the patient is in great danger, and will probably die.

General treatment of fever will vary according to the humour or complication of humours deranged; to its stage, whether the diseased humours are crude or mature; whether the fever is new, having lasted from seven to twelve days, or is old, having continued twenty-one days or upwards.

All these fevers being produced by derangement either of the wind, bile, or phlegm, fasting is one of the chief means of restoring the balance, while the fever is advancing, or when it is unripe. This is known by a peculiar pain in the chest, drowsiness and listlessness, the yellow colour of the saliva, the want of appetite, the constipated state of the bowels, and by the secretion of urine: In other cases, by the body feeling heavy, by the absence of perspiration, by the bad taste in the mouth, and by a constant and severe fever. *Dhanwantaree* says that medicine should not be given in this stage of fever, and not until the seventh day; others say, not until the tenth day after its commencement. However, should the bowels have been constipated before the fever, and the humours be ripe, the latter should be evacuated either by emetics, purgatives, or errhines, or a severe disease will be the consequence

by the pent up impurities. Should fever be produced by derangements of wind, ghee ought to be freely used; if phlegm is particularly deranged, give first an emetic; if bile, purgatives, which will be varied with the peculiar symptoms. When the phlegm is ripe, errhines are recommended; and a suppository is to be exhibited for cases in which the bowels are constipated.

If the fever does not completely disappear by these means, it proves that some of the diseased humours still remain, which should be removed by the exhibition of hot ghee; and by discharging the deranged wind, bile, or phlegm, by means of errhines and purgatives. During the continuance of the fever the usual food and drink are to be avoided, until the natural excretions are restored, the senses act naturally, and the patient feels hungry and thirsty, at the same time. The cure is completed by increasing the strength, and promoting the appetite; and this is known by the lightness and elasticity of the body.

When the fever is new, the patient should only take conjee water for food; and when the internal heat is diminished, dry ginger and long pepper may be boiled in it. When with fever there is a disease in the side, or the lower part of the head or abdomen, the red rice should be used for making

the conjee. Should phlegm be diseased, conjee should not be given; nor when the new fever is very strong. When these acute symptoms are diminished, and when bile is deranged the use of rice water is proper. The drink should be boiled water again warmed. Should the patient complain of nausea, and fulness of the stomach, on an accession of fever, the treatment should commence with the exhibition of an emetic, and during the continuance of an attack of fever, all indigestible food should be carefully avoided, particularly when there is no appetite.

In other MSS. it is stated that fasting is to be continued for three, five, or ten days, according to the improvement of the symptoms which take place. By this means the practitioner will discover the state of the wind, bile, and phlegm.

During the continuance of a new fever, the patient should remain in a room shut up, in which a panka may be used. He should be clad in warm clothes, should neither sleep during the day, bathe, nor anoint his body with oil. He should also be removed from his wife, and avoid all oily and indigestible articles of food, especially astringent articles, anger, violent exercise, and exposure to strong wind. By these means the morbid matter is allowed to ripen, and is then to be discharged by

evacuating medicines. Should these be exhibited before the morbid matter is matured, it will increase and probably render the fever fatal.

Food is to be given when wind predominates, with appetite, thirst, and dryness of the mouth; and, should fasting produce weakness, means to strengthen the body should be substituted. When fevers attack infants, or old people, pregnant females, or weak persons who perspire, or when much wind, urine, and dejections have been discharged, suitable food should be given. A patient is known to have fasted too long when he has pain over the body, cough, with a dry mouth, no appetite, much thirst, and the power of hearing and seeing much weakened, with hiccough and quick respiration. Such a person is stupid, cold, and weak in body. If the feverish paroxysm occur after dinner, a vomit should be administered.

During the second stage, maturing substances should be used, and the patient should be allowed a decoction of bitter herbs, so as to restore the derangement of the humours, such as a small quantity of kantakare (solanum jacquini); gulu-ncha (menishermum glabrum); shunthee (dried ginger); chirata (gentiana chayrayta); and kura (interjow tree); pound and mix. Boil the medicine

in a pound of water till reduced to one-fourth, strain through a cloth, and add a little honey—for one dose. The patient is to be allowed a little more food than during the first stage, and milk may be taken with advantage.

Should the fever pass on to the third, or last stage, when it is said to be old, it is to be treated by evacuating remedies, such as emetics, purgatives, and various febrifuge decoctions. The diet should be larger in quantity, and of a more nourishing quality, than during the two first periods of the disease; such as broths prepared with animal flesh, milk, and the like. In these old fevers, the body is recommended to be rubbed with oil, which has been prepared with different medicines. This is applied three hours before the patient bathes, and is considered peculiarly useful in cases of great weakness.

A simple continued fever. There are six varieties. 1st, continued fever, caused by a derangement of wind, and ushered in with shivering. In this form, the body is more or less warm, and the skin, throat, mouth, and lips are dry. The patient does not sneeze, has no sleep, and has pain in the head and chest, and over the body. There is an astringent bad taste in the mouth, with a dark appearance round the eyes, and over the surface of the

body. He frequently yawns, and has flatulence and pain in the abdomen, which is uneasy and heavy after eating, with a constipated state of the bowels.

The treatment of this fever will vary with its stage and the particular symptoms present. Hot remedies are to be exhibited during the cold stage; and cooling remedies during the hot stage. According to Susruta, it is to be treated by enemas and errhines, for removing headache and humours from the head. An infusion composed of cassia fistula, bullea stripens, cyperus juncifolia, black hellebore, and myrabolan, of each forty rateka, are to be boiled in a pint of water till a quarter remains. This is one dose, and is to be repeated for two days, in the morning; various infusions of herbs, and barks of trees are exhibited in the same way, and with good effect. Prepared ghee, with febrifuge medicines are used when the other remedies have not removed the disease.

The food in new fever should be in small quantities, such as kidney beans well boiled, bruised, and eaten with spices. Rice water, with lemon juice and warm water, should be used as drink. Long pepper, hemidesmus, raisins, and dill, of each forty rateka in a pint of water, and boiled down to one-fourth; this is to be taken twice a-day. Should the

fever have been produced by severe exercise, or if he be very hungry, the patient may take broth, with boiled rice, fish, congee, and other such light food. Should strong evacuant medicines be given in the first stage of this or any other form of fever, they will produce severe intermittent fever.

2nd. *Bilious* fever commences with a shivering fit, followed by a hot stage; frequent liquid stools, vomiting, a bitter taste in the mouth, and restlessness. Aphthæ form in the throat, lips, mouth, and nose; the patient perspires freely, often speaks nonsense, but is correct in facts, and has sometimes fainting fits, and attacks of giddiness. Such a patient is very listless, his body is pale, with a burning sensation over the surface, he has great thirst, the stools and urine have a yellow colour, as well as the eyes, which are often also red.

This fever, like the last, has three stages. In the first stage give laxatives, with cooling and bitter food. The infusion of *palta* leaves in half a pint of simple water, or barley water boiled, and a little honey for the taste, is given once a-day, and is considered very cooling. The following cooling medicine is also given in this fever:—take of the bitter leaves of the oldenlandea biflora, justitia ganderussa, black hellebore, chiraita, coriander seeds, panicum italicum, one sicca weight of

each. A tolá of this is to be infused in a pint of water until it is reduced to one quarter, which is to be taken twice daily. There are various other bitter remedies, all of which are said to cure this fever. It is also treated by covering the forehead with several cooling substances mixed with water. When pain in the head is severe, with great heat, the person is recommended to sleep on lily, neem, or plantain leaves to cool the body; and the juice of the leaves of the kula (gizyphus jujuba) is to be rubbed on the palms of the patient's hands, and the soles of his feet, to cool them. They likewise recommend free ventilation, and residing in a cool situation. The house may be sprinkled with sandal-wood and water with advantage.

The diet should consist of fried gram or peas, boiled in water, and strained. This is mixed with sugar and honey: the juice of acid fruits is also given.

3rd. Derangement of *phlegm* produces a fever named the cold phlegmatic fever. This is ushered in by loss of appetite, and the symptoms of the hot stage are less marked than in the last form of fever. The person feels languid, and listless, with a sweet taste in his mouth. In this fever the body feels cold, as if wrapped in a wet cloth, and the stools and urine are white. Such

a person remains quiet and silent, and does not eat; but feels as if he had eaten too much, his body is very heavy, his eyes white; he has nausea attended with cough. He is very sleepy, and there is a discharge of mucus from the eyes, mouth, and nose.

The stomach in the first stage of this fever should be cleared by an emetic, which will often cut the fever short, but this remedy is not to be used when the patient is very weak: after the emetic the juice of the leaves of vitex negundo is to be administered, with the powder of long-pepper. For seven days the person should not eat his usual food; but should live on prepared peas, and the like. Heating medicines of all kinds are used in this fever, and the diet should be light, as well as heating.

4th. The fever produced by deranged *wind* and *phlegm*, commences with giddiness, fainting, and thirst: the body feels cold to another person, although the patient complains of its being hot and burning; he has loss of appetite and memory, no sleep, pain in all the joints, head-ache, cough, dry throat and mouth, vomiting, goose-skin, no perspiration, low spirits, and yawning.

To remove this form of fever take of dry ginger, minispermum glabrum, cyperus rotundus, chiraita,

hedysarum gengeticum, hemionites cordifolia, solanum melongena, (a variety of prickly night-shade,) and premna spinosa, eighteen ratis of each, boil to one quarter, and take twice a day. The bruised leaves of the *nisinda* (vitex trifolia) are boiled in a pound of water, till three parts are evaporated, and then is added bruised long-pepper. The decoction of *mudga*, a sort of pea, and the juice of *amlake* are often used. When there is much heat in the body, we may give a decoction of gram, with the juice of the fruit of pomegranate for diet.

5th. When the *wind* and *bile* produce fever, it is not severe in its accession. The body feels cold; there are shivering, cold perspiration, and pain in the bones; the person sleeps much, has pain in the head, with much saliva in the mouth, and running at the nose, with cough, thirst, and dry skin.

The treatment consists in exhibiting the root of long-pepper, piper chavya or orris root (Roxb.,) and the root of plumbago zeylanica, and dried ginger: thirty-two ratis of each are put into a pint of water, and boiled down to one-fourth. Take this twice a day. Heating medicines may also be used in this fever, as chiraita, dry ginger, minispermum glabrum, tucticia ganderussa, long-pepper, garlic, and vitex negunda, twenty ratis

each. Boil in a pint of water, till reduced to one-fourth, and take this twice daily.

Thirst is to be quenched by warm water; after drinking spirits, cold water is to be given.

When the pain in the joints is severe, the vapour bath may be used; and should there be great dryness of the mouth, in order to increase this secretion take salt, the powder of black-pepper, and the juice of lemons: or boil in water the following medicines—the bark of ægle marmelos, bignonia indica, gmelina arborea, bignonia suaveolens, and premna spinosa: of each thirty-two ratís; mix in two seers of water, and reduce it to one seer. This is again boiled with some rice, and when cool strained.

6th. *Bile and phlegm.* The mouth is clammy and bitter, with much saliva in this form of fever. The person is always dozing, complains of faintness, and coughs; has no appetite, thirst, and is at one time hot, and at another time cold.

Abstinence in eating and drinking is to be enjoined; the medicines that cure the diseases of bile and phlegm are to be given, such as minispernum glabrum, neem bark, coriander, red sandalwood, hellebore, thirty-two ratís of each, boil in a pint of water, till reduced to one-fourth; take this dose twice a-day.

Perspiration is to be encouraged, as phlegm shuts up the perspirable pores, and restores the internal heat to its proper place; and water promotes the movements of the body, and cures the fever. Hot sand in a bag may be applied to the body, and by changing continually its position, it soon produces perspiration. Long-pepper with its stem, dry ginger, each thirty-two ratis mixed, and boiled together, may be given twice daily.

B 7th. *Mixed Fevers.* In this form of fever the wind, bile, and phlegm, are deranged; and it is always dangerous. At one time the patient is hot, at other times cold, with pains in the bones, joints, and head; the eyes are watery, of a dirty yellow, reddish colour, and hollow; the patient complains of ringing and pain in the ears, with uneasiness in the head, neck, and thorax; is always dozing, but cannot sleep at night; has no memory, sometimes faints, coughs, has hurried breathing, and is often delirious. Objects seem to him to turn round, and sometimes he is laughing, crying, performing unnatural actions; he is always coughing, has quick breathing, no appetite, the tongue is black like charcoal, and rough like that of a cow. Blood, phlegm, and bile flow from the mouth, the patient moves his head about continually; there are loss of strength in the limbs, thirst, watching, and

pain in the breast. The urine is secreted in small quantities, with costiveness and no perspiration; there are noises in the throat, so that there is a difficulty in comprehending what the sick person says; with round elevations, and central depressions of a blue and red colour, over the surface of the body. The patient has a very feeble pulse, he vomits blood, mixed with phlegm, and his abdomen is diminished in size. His body does not become thin, but his belly is heavy. This kind of fever from deranged humours remains long, and much care and proper medicines are required for its cure. After the first stage, should the fever continue severe with loss of fire in the stomach, it will be generally fatal; and, also, in the second stage, or after the seventh day of the fever when the lower part of the ear (the parotid gland) swells. This fever is ascribed to bile, when the life of the patient is in great danger; but if it be mild, from diseased phlegm or wind, the patient will recover. It is supposed to be a fatal sign, when the symptoms become more severe in old fevers, or after the seventh day; and is attributed to phlegm, when the disease will prove fatal. If in this late period the symptoms are mild, the disease is ascribed to bile or wind, and the patient will recover.

The seventh, tenth, and twelfth days are always the days on which the fever is severe, or from these periods the symptoms diminish in severity. When the fever increases from the seventh day it is attributed to deranged wind; when from the ninth or tenth day to deranged bile, and from the eleventh or twelfth to phlegm. When it increases on the fourteenth it is attributed to wind, on the eighteenth or twentieth to bile; and when on the twenty-second or twenty-fourth to phlegm. When fever is produced by the absorption of chyle, blood, muscles, fascia, bones, &c., the patient will die. This variety is indicated by the loss of sleep, a sensation of heaviness in the chest and body, flatulence and pain in the abdomen, disrelish for food, languor, and loss of strength. When the assimilation of wind, bile, and phlegm is followed by cheerfulness, diminution of fever, and a natural appearance of the patient, it is a favourable sign of recovery.

In other books it is stated that the critical days are on the seventh, ninth, tenth, eleventh, twelfth, fourteenth, eighteenth, twentieth, twenty-second, or twenty-fourth, from which period the disease diminishes or increases.

Those who live till the twenty-second or twenty-fourth day generally recover.

There are thirteen kinds of mixed fevers according to Charaka.

In three kinds, one of the humours, that is the wind, bile, or phlegm, is morbidly increased, or diminished beyond the others. In a second form, two are increased or diminished. The thirteenth variety is that in which three humours are morbidly increased.

1. When the wind is increased, the usual symptoms of this form of fever will be accompanied with dryness and a bad taste in the mouth, high coloured urine and stools, difficulty in breathing, shivering, spasms, cough, yawning, burning of the body, giddiness, dimness of sight, delirium, and pain in the arms and sides of the belly.

2. In another form the peculiar symptoms are pains in the joints and head, high coloured urine and stools, looseness, giddiness, weakness, fainting, aphthæ in the mouth, red spots, and a burning sensation over the body.

3. Deranged phlegm is denoted by a feeling of languor, a difficulty in speaking, sleeping much, eyes cloudy, no appetite, cough, and a sweet taste in the mouth.

4. When bile is increased, the person feels as if he had taken narcotic medicines; complaining of thirst, dry mouth, drowsiness, flatulence, loss of

appetite, cough, difficulty in breathing, giddiness, and languor.

5. When the wind and phlegm are in the neck, fever comes on with shivering, fainting, sneezing, burning thirst, and pain over the body, and in the abdomen, difficulty in breathing, and disrelish for food.

6. Bile with phlegm is distinguished by a burning sensation in the body, with chilliness, thirst, pain in the right side of the chest and bones, head-ache, pain in the breast and throat, vomiting of phlegm and bile, looseness, difficulty in breathing, hiccough, and drowsiness.

7. In this form the three, wind, bile, and phlegm are morbidly increased, and it kills quickly. The peculiar symptoms of this fever are, running at the nose, vomiting, the patient breathes slowly and imperfectly, he is motionless, his eyes are fixed, and after three days he dies.

8. The peculiar symptoms of this variety are delirium, languor, faintness, shivering, giddiness, and paralysis of half the body. Yellowish conjunctiva and urine. This is a very dangerous form of disease.

9. Faintness, delirium, stiffness of the neck, head-ache, cough, difficulty in breathing, giddiness drowsiness, severe pain in the chest, hemmorhage

from the mouth and nose, and the eyes being fixed characterise this form of fever. The patient generally dies within three days.

10. In this variety there is severe pain in the bones and chest, and abscesses form in the liver, spleen, and lungs; and both the patient's stools, and the matter vomited contain blood and pus.

11. Is accompanied with a burning sensation internally, the person cannot speak, his face and eyes become red, he cannot expectorate the phlegm from his throat, he has severe lancinating pains in the breast, with drowsiness, difficulty in breathing, and hiccough. These symptoms increase daily; the patient's tongue becomes black and rough, his throat becomes as if covered with prickles, involuntary evacuations follow; he moans much, like the cooing of a pigeon; his mouth, lips, and palate are dry, he sleeps much, and he cannot speak, but has convulsions, with nausea and vomiting.

12. In this fever there is pain in the loins, the body is cool, and during the accession it feels cold, with diarrhœa, giddiness, languor, head-ache, drowsiness, pain in the neck and chest, cough, difficulty of breathing, and insensibility.

13. In this form the three humours are supposed to be deranged, and the disease is generally fatal.

It is characterised by dryness of the mouth and throat, loss of appetite, tongue furred, hoarseness of the voice, delirium, by the patient being always sleepy, and his body feeling as if it belonged to another person; he speaks very little, and with great pain, is stupid, and breathes with difficulty. His bowels are confined, there is no secretion of urine, or perspiration, with the internal heat diminished; he has a burning sensation, accompanied with weakness, a dead-like feeling of the skin, and dimness of sight.

In this form the patient must abstain from food; he must be put into a sand-bath, and errhines, emetics, and expectorant administered. Should he be drowsy, several kinds of errhines are recommended. During this fever he should drink boiled water which had been cooled.

8th. *Accidental fever* produced by injuries, such as wounds, &c., by poison of insects, by the effects of wind mixed with the deleterious matter which is supposed to come with easterly winds, by the passions, and by curses of a holy man, a Brahmin, or a prophet. These causes derange the wind, bile, and phlegm, and thus produce fever, characterised by a dark appearance of the lips, loss of appetite, thirst, fainting fits, diarrhœa, and pains over the body. When fever is produced by the

deleterious easterly wind, there is headache, fainting, and vomiting.

As this form of fever is produced by different causes, it requires the treatment to be varied, according to the symptoms present. When produced by wounds, they are to be dressed by a plaster composed of cocoa-nut oil, country soap, and the sulphuret of mercury. These are heated over a fire, spread over a cloth, and applied to the wound. If possible the patient should bathe daily, and cooling medicines should be administered. His diet should be rice, and broth of fish or flesh: no milk should be allowed.

When a part is swollen and painful, leeches may be applied to relieve congestion, and a lotion formed of equal parts of country wine, and the juice of onions. Heat them for a few minutes over the fire, and keep a rag wet with it over the pained part.

The following embrocation is likewise recommended:—take of clarified butter, a pint; plumbago, resin, one tollah; onion, two chetacks; boil for half-an-hour, and then strain. To this add a tollah of camphor, melt and mix over a fire, and apply to the pained part. Warm fomentations are also recommended, and a mixture of boiled rice and dhal, with ghee and onions.

Fever produced by the sting of insects, by the application of irritating and deleterious plants, produces red patches over the body, a burning sensation, with languor and thirst. The irritating cause is first to be removed, and the part washed. Then apply a paste made of *hustha*, (costus speciosus) one tollah, burnt unslacked lime one tollah; mix with water, and form a paste.

When the fever is produced by fear, grief, or lust, the person is lazy, dozes, and is often delirious. This form is accompanied by a derangement of wind, for which cooling substances are to be used. Should it be produced by derangement of phlegm, bitter articles are to be administered; and when bile is deranged, sweet food is to be given. When produced by an evil spirit, or by unfavourable conjuctions of planets, it is to be cured by prayers and offerings to the Brahmins.

When the fever is produced by anger, with loss of appetite, bile is deranged, and it is cured in the usual manner. When produced by the curses of a good man, or by sorcery of another, want of memory and thirst are the peculiar symptoms present. When an evil spirit produces it, the person shivers, and is sorrowful.

These varieties of fevers are to be cured by

proper prayers, stated in the shastres, by binding the person, and beating him, by which the fever will be cured: as by these means they believe the devil alone suffers, and is expelled.

C. 9th. *Intermittent Fevers.* The peculiarities of this variety of fever is that it occurs at uncertain times, with sometimes a little cold, and at other times a slight hot stage. This is another form of fever, which occurs before and after attacks of other kinds of fever; from the derangements of the humours of the body. The essential parts of the body such as chyle, blood, muscles, fat, bone, semen, and marrow, in the order now mentioned may be affected. One or more are sometimes deranged, and form so many kinds of fever.

The paroxysm of intermittent fever occurs at uncertain periods, when the patient feels first cold, then hot, and afterwards perspires.

At the time of the accession of the fever the paroxysm may be prevented by frightening the patient, by brandishing a naked sword before him, by advancing poisonous snakes near him, with the poisoned fangs removed, by the approach of dangerous elephants, and by the alarm of thieves. For a like purpose, on the day of the return of the fever, emetics, purgatives, diaphoretics, or strong

liquors are to be exhibited. These are to be given before the paroxysm is expected.

The following varieties of this form of fevers are described by Hindu medical writers.

1. *Simple intermittent fever* affects the chyle and blood; and it has an interval of seven, ten, or twelve days according as the wind, bile, or phlegm are affected. These paroxysms are followed by an interval; after which a paroxysm again occurs and remains for several days.

2. *Remittent Fever. Sattata Bipay*, which affects the blood, has two paroxysms daily; one at night and another during the day. In general it appears during the day only.

When the person is weak and the fever is old, he should live on light food, such as broths prepared with certain kinds of pulse, the flesh of birds and animals, which have been fed with grain. Others say there are two kinds of this fever, one of which commences with a cold fit, and another with a hot fit. The first gives much uneasiness, and is cured with difficulty.

3. *Quotedian Fever.* In this the paroxysm of fever recurs at the same hour daily; and different bitter infusions are used; the steam from the mixture is allowed to come in contact with the body, which has been covered, so as to be exposed to the vapour.

4. *Quartan Fever*, in which the paroxysm occurs every seventy-two hours, may terminate in a tertian fever, with an interval of forty-eight hours. There are three varieties of this fever.

a. When *wind*, *phlegm*, and *bile* are deranged in this fever, before the accession, pain is felt at the nape of the neck.

b. When *wind* and *phlegm* are deranged, the patient first feels pain in the loins.

c When *wind* and *bile* are deranged, the fever commences with headache. For the cure of such fevers, various prayers are now employed.

5. *Quintana* fever *(Chaturthaka)* occurs every ninety-six hours: which may become a tertian, a quotedian, and again a quintana. Sometimes the paroxysm continues for two days, so that there is a paroxysm on the first and fourth day. Hindu physicians distinguish also a slight daily paroxysm, with dropsy, and a slight fever with free perspirations and cold. This fever presents the following symptoms: it commences with shivering, dryness, and swelling; the patient is so weak as not to be able to walk. He evacuates much bile, wind, and phlegm, which are not particularly affected. Errhines and certain roots are used for the cure of this fever, gathered on the nights of lucky days, and are sometimes tied to the hair of

the head, and other parts of the body. When the body is perspiring, with little fever and stools, it is called *Proapiko* or *Prelapaka.*

Hariharatmaka fever is when half the body is affected with fever; and when the upper or lower part of the body is so deranged, it is called *Narastnghatma.* In such cases, one half of the body is hot and the other cold; and what is eaten is not digested, and does harm: The deranged bile and phlegm produce these morbid symptoms. When the bile of the body is deranged, and the phlegm of the arms and legs, the body is hot and the hands and feet are cold. When the phlegm of the body is deranged, and the bile of the hands and feet, the body is cold and the hands and feet are hot.

The fever is also modified, as the essential parts are deranged. Thus the chyle, fat, blood, flesh, bone, marrow, and semen may be deranged; and the supposed danger increases in this order until the last, the semen, when the fever is considered fatal.

The type of the fever varies also according to the season of the year. Each of them forms two lunar months; during June and July, the rainy season, wind predominates, and the fevers take on the characters of deranged wind. In the autumnal,

or sultry months, the bile and phlegm predominate; in spring, the phlegm is in excess, and is succeeded by derangement of the wind and bile, followed by fever.

Order 2. *Eruptive Fevers.* The want of knowledge of the anatomy of the body, and confidence in their theory of disease, led the Hindu physicians to neglect that careful examination of the origin and course of disease; and explains their grouping different diseases under one head, and separating others which ought to be in the same class, and modified prejudicially their method of treatment. It will be convenient to examine, under this head, their description of chicken-pox, burning of the body, urticaria, erysipelas and carbuncle, leprosy, and hemorrhagia. The other diseases affecting the general system are rheumatism, jaundice, nervous diseases, tumours and swellings, fatness and leanness.

1. *Chicken-pox.* In Susruta, there is described a disease which resembles, in some of its features, the chicken-pox, or the milder form of small-pox. The disease is short in its duration, and no mention is made of its dangerous character and epidemic form. It may have changed its character, like some other diseases, from unknown causes, but it is more probable that the peculiar and

dangerous epidemic, small-pox, is a new form of disease. According to this opinion, it is at a much later period that the small-pox is described by Hindu writers in its present formidable form; probably not long before Rhazes described it, some time after which it appeared in Europe.

2. *Burning of the body.* This is a sense of burning of the body, attended with fever; supposed to be caused by the heating of the blood, which produces a redness of the surface and the eyes, with hot breath. There are seven varieties, one of which is caused by bile, and is accompanied with fever, and another by an excess of blood, producing great redness and a smell of blood. A third form is from wounds and the effusion of blood, and is supposed to be cured with difficulty. The fourth form is produced by drunkenness, which deranges the bile and blood; and produces dryness of the tongue and throat, with burning of the body. 5. This form is produced by great thirst, and want of water. 6. Another variety is produced in the course of disease; and 7. When an important organ is wounded. In such cases the body feels cold to another while the patient is suffering from internal burning, it is always an unfavourable symptom. The treatment of this class of symptoms is to apply over the

surface a mixture of clarified old ghee and barley-meal or sandal-wood reduced to a paste between two stones, scented with a fragrant grass. In old cases vinegar and water should be applied to moisten the surface, with cloths wet with old fermented rice-water, and the free use of the punkah. The patient should use the cold bath, and rest on the leaves of the water-lily or plantain. He should use the juice of the sugar-cane and different kinds of cooling drinks, and other antiphlogistic remedies.

Burning of the feet is a painful variety of this disease and is often very severe and untractable in India. In the treatment, leeches are sometimes recommended; in other cases butter is applied to the feet, which are then brought near the fire. Others employ the ervum hirsutum rubbed with water between two stones, and the paste is applied to the feet.

3. Urticaria (*Sitapeta*, *udordah*, or *kotha.*) Here, also, Hindu physicians grouped different disorders under one head, which in the present instance was of less consequence, as the treatment was very much the same for these different diseases.

Sitapeta is produced by cold air applied to the body, which deranges the phlegm, wind, and

bile; which moves about on the surface, and within the body, producing thirst, redness of the eyes, nausea, and loss of appetite. The body becomes heavy, and the person incapable of work. This disease appears with slight swellings in different parts of the body, like the stings of wasps. The parts are at first itchy and then very painful, with vomiting, fever, and heat of the body. When the wind is much diseased, beyond the other humours, it is called *sitapeta*; and when phlegm is much affected, producing red circles, accompanied by itching it is called *udordah*; and it is named *kotha* when the stomach is deranged. This is more liable to occur, if at the commencement the stomach has not been properly cleared by emetics, and when bile and phlegm are deranged. If in such a case an ignorant person does not promote vomiting, but endeavours to cure the deranged bile and phlegm, the disease will be aggravated. In such cases the body is covered with large and small circular patches, which are itchy, elevated, and have a red colour. They appear and disappear on different parts of the body. This form of the disease will also be produced by repressing vomiting when nature is endeavouring to relieve herself of the contents of the stomach.

The treatment should consist in stomachics, with

rice prepared with horse radish and bird soup. When the body is feverish, cooling diet is to be used. In *sitapeta*, heating articles of food are to be exhibited. In *udordah*, mustard oil is to be rubbed over the body; in other cases turmeric, panicum dactylon, and the urine of the cow are to be mixed and rubbed over the body. The warm bath is of great use, and a decoction of *nimbá* leaves, as an emetic and purgative; with one tolá of trifalá, consisting of myrobalan, emblici myrobalan, and beleric myrobalan, mixed in equal proportions, boiled and reduced to one-fouth, and exhibited in each dose, from a tolá, to half-a-tolá of convolvus turpethum, and castor oil. If for several days the person takes the powder of myrobalan (*ámlaki*), liquorice root with sugar, or lequisticum ajivaen with sugar, and uses the proper diet he will be cured of the disease. The juice of fresh ginger, with old brown sugar, is also used. In *sitapeta* the same treatment is to be employed; in *khatha*, tonic medicines are to be given, with blood-letting. The powder of the neem leaves, and amlaki myrobalan, are to be taken internally. He should also take rice prepared with horse raddish, and the broth of birds. Cooling diet is to be used in the two last forms; and in *sitapeta*, heating food is to be employed, and everything cooling avoided.

4. *Erysipelas, Carbuncle.* (*Bisharpa*). The same confusion of diseases is found in this as under the last disease; from following their theoretical notions regarding the wind, bile, and phlegm, which are supposed all to be deranged in the skin, flesh, or blood, producing a slight swelling of the body, and passing from one part to another. When produced by wind, the part becomes black, soft, and unequal; accompanied with pain, as if needles were thrust into the part, and the fever produced by deranged wind. When surrounded with vesications it is incurable.

When the disease is produced by bile it spreads quickly, and is accompanied with inflammatory fever. This form is attended with redness and vesications. When the inflammation is deep, the flesh and vessels are destroyed, and it discharges a matter like a mixture of water and clay. Such cases are incurable.

When produced by *phlegm* it spreads slowly, has an oily appearance, and is white. There is little pain in such cases, with considerable itching. When produced by the derangement of the three humours, the symptoms are of a mixed nature.

There are seven varieties, according as the wind, bile, and phlegm are diseased, or two or three are deranged at the same time. This last

form is called *suneepat*, and combines the symptoms of the three first varieties. When wind and bile are affected, constant vomiting, insensibility, purging, with great thirst, swimming in the head, no appetite, great listlessness, the skin is red, he breathes with difficulty, and is troubled with hiccough: This disease, is called *grintte*. The phlegm and the wind which affect the blood, especially in the skin, vessels, and flesh, produce pain, and fever, cough, and dysentery. When it passes to suppuration it is incurable. When produced by sharp instruments, or such like injuries, the bile and blood are deranged, and produce a swelling of the part, which becomes black and red, and is accompanied with violent inflammatory fever. The affected part is surrounded by a black edge, and eruptions like peas. The first three forms of this disease are curable, and the more severe form, in which two or more humours are affected, is considered incurable.

The treatment consist in exhibiting antiphlogistic remedies; when produced by wind, different preparations of ghee, and decoctions, and plasters are applied to the part. The medicines used are the same in all the above forms. Stimulating medicines are applied to the part when the disease is produced by bile. The applications in this form should be

used cold. In some cases cold water, or water mixed with honey or sugar, or the juice of the sugar-cane, is applied to the part with advantage, when the disease is produced by deranged phlegm, with the applications of certain herbs, which are mixed with cow's urine, to the consistence of cream, and applied to the part.

Besides these external applications, purgatives and blood-letting are recommended. When abscesses are formed, or the part ulcerates, the usual plan of treatment for abscesses and ulcers is to be followed.

5. *Leprosy (Kushta.)* The history of leprosy, as described in the ancient Hindu MSS. has a peculiar claim to attention in Asia, where it appears in its most aggravated form, and from its nature being little known and its treatment uncertain. It was originally derived from the East, and extending to Europe, was often confounded with other seven diseases, and committed, during three centuries, dreadful ravages.

The Hindus suppose the disease to be caused by bad air and drink; eating substances which do not assimilate, as milk and fish, food of a rancid, salt, and indigestible nature; or thin oleaginous food: when the person eats immoderately of such food for some time, it will produce this disease. In

other cases, irregularity in eating and fasting, mental agitation, violent exercise, exposure to fatigue, or too great heat, especially after a full meal; night watching, with exposure to the night air, using new rice, milk, curds, fish, and the too frequent use of pulse, radishes, sesaman and treacle, produce leprosy. In others, it is produced by checking natural evacuations, or suppressing them when artificially excited; such as vomiting or the expulsion of air, urine or dejections, or the irregularity and alternate use of hot and cold applications. Sometimes it is produced from eating hot or cold articles of food, first at dinner, or after fasting, when the usual food is not eaten, after much perspiration, fatigue, or fear, or when the person bathes, or drinks cold water at improper times. In other cases the disease is produced when the food is not digested, or when time has not been given for this purpose, before more is taken into the stomach; when after the use of emetics and purgatives, the usual simple food, &c., is not employed; when the person sleeps during the day with a loaded stomach; or when he visits his wife before the food is digested. The blood and seminal secretions of parents when tainted by leprosy, affects their offspring. Lepers in one life are born again with the complaint;

and the universal Asiatic belief that the disease is contagious, is expressed by medical authority and legislative enactments. It is communicable by contact, by breathing the same air, by eating together, by wearing the clothes or ornaments of a person labouring under the disease. The contagious nature of leprosy is not always apparent, as the attendants on patients labouring under the worst forms of leprosy often escape. After a careful examination of this important question in Bengal, I found it required a peculiar predisposition of the person before it affected him, and the European was rarely or never afflicted with it. I was not able to find, after a careful examination, one case of a healthy European with the disease, and those that became afflicted with leprosy were Dutch and Portuguese: old inhabitants of an unhealthy country, and following luxurious, indolent habits. Even then, it was only in the primary active stage that it attacked the predisposed. It was transmitted to the weakly offspring, while the strong escaped. I found it developed itself in the weaker children in the second generation; so that it appears the disease was developed under very peculiar morbid conditions of the body. The Asiatics suppose it is produced under very aggravated degrees of wickedness, as speaking disre-

spectfully, or acting improperly, against his spiritual adviser (goru) or Brahmin; committing adultery with a Brahmin's wife; killing a good man, or robbing a person of his estate.

Leprosy is supposed to affect the three humours and seven essential parts, and is distinguished according to the seat of the disease, and the number of humours affected at the same time. As this cannot be known, the classification is made by the appearance and discolouration of the skin, and the accidental modifications arising out of the humour, or part affected. Leprosy is thus produced by deranged humours, by which the skin, blood, flesh, and watery parts of the blood are deranged. The Hindus distinguish three kinds of leprosy—a black, white, and red variety, and eighteen forms; seven of these are severe in their nature, and eleven are mild. The varieties of the black leprosy are—

a. Kapala, which is covered with black and purplish patches, resembling the broken pieces of a black earthen vessel. These blotches are irregular, hard and dry, and are accompanied with a pricking pain. The wind is the humour principally affected and the cure is difficult.

b. Audumbará. In this form the blotches are livid, and resemble in form the fruit of the ficus

glomerata. This form is accompanied with severe pain, and a burning on the surface. The hair becomes tawny; and the morbid humour is bile.

c. Mardala. The patches in this variety are elevated, round, white and red, with yellow edges running into each other, are spreading, and discharge a thin ichor. There are many sorts, which are accompanied with much itching, burning, and pain; and are produced by derangements of the phlegm. These are the general symptoms of the severe forms of leprosy.

d. Rishwajihwa; the patches of tubercles are shaped like the tongue of a bear; hard and red round their edges, dark in the centre, and are accompanied with severe pain. This form is produced by a derangement of the wind and bile.

e. Pundarika. The round patches or blotches are pale red in the centre, with dark dull red edges, and resemble the leaves of the lotus, when exposed to the sun, and discharge a thick ichor and blood. This variety is produced by derangement of the phlegm and bile.

f. Sidhma is produced by deranged phlegm and wind, and is characterized by small, white, copper-coloured, or red spots, shaped like the flower of the gourd, which spread over large surfaces, accompanied with a thin mealy dust. This is the Lepra Alphos.

g. Kákana resembles the seed of the abrus precatorus, with red and black spots in the centre. The blotches are extremely painful, and often terminate in suppuration. The three humours are deranged in this variety, which is incurable.

The milder varieties of leprosy are arranged differently in Susruta, from the following, which are given by Charaka.

1. When there is no perspiration, the disease is in the flesh. The patches are large, oblong like the scales of a fish, rough like the skin of an elephant, and of a dark brown colour: it is called Gajachormo (Ichthyosis).

2. When it has patches of a dark yellow colour, like the cicatrices of healed ulcers, with a hardness and roughness of the parts, with the hands and feet much chapped and swollen.

3. When sores and chaps form in the hands and feet, about the nails, accompanied with small tubercles of a black or red colour, with pain and itching—the disease is called *varpadika.* This is the *dal-feel* of the Arabians and the *slipada* of the Hindus. As I have pointed out, this swelling follows an attack of fever, by curing which the swelling is prevented.* It has no connexion with leprosy.

* Trans: Med Society, Calcutta, vol. vii.

4. When the tubercles are large, of a red colour, and very itchy, it is named *alasaka.*

5. Should the patches form dark reddish, painfully itchy, burning, and spreading tumours, it is named *dadru.*

6. When the spots are of a red colour, with painful itching, it is produced by the same diseased humours as the last. These blotches ripen soon, and much matter is discharged: it is called *charmadala.*

7. The tumours are sometimes numerous and small, of a dark and purplish hue, with a copious, thin, and bloody discharge, with burning and itchiness, called *pama.*

8. When the tubercles are larger than the last, and are accompanied with much pain and heat in the palms of the hands or buttocks, the disease is called *kachchhu.*

9. When the eruption is of a dark yellow or red colour, and the skin is dry and thin, it is called *visphota.*

10. Another form is yellow or dark reddish coloured blotches, accompanied with heat and pain, and numerous itchy tubercles which ulcerate: it is called *shatarush.*

11. When the tubercles are small, numerous, painfully itchy, with a hot skin; of a dark yellow

colour, and discharge much ichor and blood, the disease it is called *vicharchika*.

The four first varieties are produced by derangements of the wind and phlegm, and the seven last by derangements of the bile and phlegm.

Various severe diseases are thus grouped under that of leprosy in all ages and countries. By the Hindu physicians they are explained by the modifications which the vitiated humours assume in different individuals, which influence their character and condition, without forming a distinct variety. The virulence of the disease, being produced by the humours affected, and may extend to all the essential parts of the body. Each kind becomes distinct in itself, and is varied by being combined. When the *wind* is chiefly deranged, the skin is hard and rough, and the blotches are of a dark hue; when the *bile* is in a morbid state, the surface looks as if boiled, the discolouration is extensive, with a sensation of burning heat, and a copious discharge of ichor; and in a diseased condition of the *phlegmatic humour*, the skin looks moist and unctuous, of a pale or white colour, with a sense of itchiness.

Other varieties of leprosy are produced by the seat of the disease. When it affects the *skin*, the colour is unnatural, rough, dry, and insen-

sible, the hairs on the body are generally erect, and the person perspires freely. The *chyle* when affected, produces discolouration and rigidity of the skin, paralysis, horripilation, and excessive perspiration. When *blood* is deranged, the body becomes itchy with fetor, the skin is hard, with swelling of the extremities, pain in the joints, and dryness of the mouth. When *flesh* is diseased, it is attended with pricking pain, swelling, and induration; the mouth is often parched, perspiration is defective, and the surface of the body is rough like the scales of a fish. Patches of vesicles sometimes form, and terminate in indolent ulcers. When *fat* is affected, the hands and feet become stiff, insensible, ulcerate, and drop off; the sores pass from one part of the body to another, and the symptoms of diseased *flesh* appear also in this form. When the *bones* and *marrow* are affected with the leprous disease, in addition to the preceding symptoms, the nose falls in, the eyes become red, worms breed in the sores, and the voice becomes unnatural and hoarse. The presence of the disease in the seminal fluid is shown by its transmission to the offspring of the affected individual.

There are two varieties of the disease which must not be confounded with the black leprosy.

The first is *Switra*, white; or Varuna, the deity of water, who is a white colour;* and *Kilasa*, or blotch, the discoloration being of a coppery or purplish tinge. The white indicating the morbid state of phlegm, the purplish that of wind, and the red that of bile. Three varieties may be produced by these morbid humours, or from external injuries, such as of wounds, burns, &c. They are attended with itching, heat, and loss of hair, but no ulceration or discharge. Charaka adds that they affect the blood, flesh, and fat; and the treatment is the same as that of leprosy. When not of long standing or great extent, and when the whiteness does not affect the hair of the body, it is curable; but when old, extensive, on the hands, lips, &c., it is incurable. Other severe forms of disease, particularly when they involve the skin, are often called leprous diseases.

In the treatment of the true or black leprosy, it is supposed to be at first superficial, but it extends deeper, affecting the different essential parts, as flesh, blood, fat, &c. Thus, like the small shoots of the banian tree, which are at first confined to the surface, advance deeper and deeper, until they extend over the whole neighbourhood. In the first stage of leprosy, when it is superficial,

* Wilson, l. c., p. 22.

the use of proper diet and medicines may cure it; but when it has extended to a greater depth, the difficulty of curing it becomes much greater.

In treating leprosy, flesh is to be avoided, with the exception of that of wild animals, as deer, birds, and quails; and oleaginous, hard, or cartilaginous articles of food, milk, curdled milk, oil, certain kinds of pulse, and leguminous plants, sour articles or sweet, preparations from sugar-cane, are not to be used. Roasted or indigestible articles of food, or eating too often, exposure to heat, sleeping in the day time, and fatigue are to be avoided. Good and old rice is to be used with barley, flour, and peas boiled in water, and mixed with the leaves of the nimb tree. Such vegetables as contain a bitter principle are useful; and barley steeped and dried, and repeated daily for seven days, then fry it, and take a little every morning with the bitter decoction of neem leaves, with marking-nut plant, madder, several sorts of asclepias, and pisticia, (adhatoda). These are dressed in oil or ghee. The former is to be alone used, when the bile or blood are affected. The vegetables are sometimes dressed with the *ticta verga*, or bitter compound, consisting of a sort of cassia, (prapunnara), avalguja, (serratula anthelmintica), patola, (Trichosanthes diæca,) vartta, the egg plant, &c.

The water with which the person washes or bathes should be impregnated with catechu, which should also be mixed with the drinking water.

In the beginning of the disease, purgatives and emetics are to be administered, and repeated in the course of the treatment. The emetics once a fortnight, purgatives once a month, and bleeding twice a year. The treatment is then varied, according to the parts supposed to be affected. When the leprosy is confined to the skin, evacuant medicines, and smearing the body with different sorts of ointments and plasters are of use, and unctuous mixtures and draughts administered. If confined to the blood it is to be purified by evacuants, smearing the body with the preceding medicines, drinking bitter and astringent decoctions, and the general and local abstraction of blood. When confined to the flesh the remedies are the same as those of the blood, with nimb and other tonic tinctures of various kinds When confined to the fat it is incurable; but the progress of the disease may be checked by proper diet and medicines, especially tonics and astringents. When the bones and marrow are affected it is so incurable, that it should not be treated, as the person will soon die. In the seven severe forms of

leprosy, besides emetics and purgatives, glysters, suppositories, with errhines, are to be used. If these five forms of medicines have been employed without effect, the case may be considered as hopeless.

When *wind* produces leprosy, prepared ghee, with astringent tonics are to be used; when *phlegm*, emetics; when *bile*, blood is to be removed from the person, and purgatives are to be administered. Blood-letting is used frequently in the cure of leprosy, and is abstracted from different veins. When prominent patches form, scarifications, leeches, or caustics are used.

Various medicines are recommended for rubbing over the body. They are usually of a stimulating nature. Yellow and red arsenic, the juice of the maddar, a kind of horse-radish called *sigru shobhanjana*, black-pepper, and the seeds of sesamum, mix together in equal parts. These are to be rubbed down with water, and applied to the surface affected. There are seven other varieties of such mixtures. The following is recommended: take of the leaves of cassia fistula, and mix them with butter-milk, and rub it over the diseased part, particularly where there are tubercles.

Both Charaka and Susruta recommend a great variety of unctuous applications in the form of

liniments and pastes, as mustard, oil and ghee, honey or cow's urine, medicated with stimulent, emollient, narcotic and astringent drugs: such as nimb, marking-nut plant, and the myrobalans, with baths, and aspersions of water and cow's urine, prepared in a similar manner. Topical bleeding is recommended by Susruta when the tubercles are hard, insensible, and of long standing; in the *Mandala* and *Switra* varieties the parts are to be scarified, and the effusion of blood promoted by the application of cupping horns and gourds; and when the tubercles are small and clustering, leeches should be applied. Caustic, alkaline ashes of burnt vegetables, especially of the britea frondoso should be used with some metallic substances in the form of oxids or salts. When there is much heat and pain the effusion of cold water is recommended by Charaka.

The ulcers should be cleaned with astringent decoctions, and an oily preparation called *vajraka* prepared by boiling in oil; twenty-two vegetable and mineral medicines is recommended by Susruta, and a paste and liniment of cassia fistula.

Various local applications are used, such as an ounce of cumin seed, half-an-ounce of red lead, (sindhur), mix with katu oil, and four times the quantity of cow's urine. Boil slowly

in an earthen vessel, and when of the consistence of honey, allow it to cool; another mixture is formed of soot, pepper, salt, and alkaline ashes, or with the oxide of lead and tin. There are many such formulæ in which arsenic, mercury and sulphur are combined; and others are formed of the lexiviated ashes of the burnt cobra de capella serpent skin, and the burnt skins of the tigers and elephants ground up with oil, medicated with vegetable extracts.

The general treatment of leprosy consists in administering stimulants; an infusion of pepper, ginger, and bitters, as preparations of nimb, and astringents, as those of catechu. Susruta recommends them to be taken in the form of decoctions and infusions, as a diet drink; and the patient should bathe in water, strongly impregnated with it. In the compounds recommended, are active medicines, such as the various species of euphorbium, asclepias, and cassia; the anthelmintic drug, named virenga; the marking-nut plant; the seeds of the Wrightea antidysenterica; the serratula anthelmintica; and various mineral substances, as the orpiments or sulphurets of arsenic, sulphates of copper, red and green sulphates of iron.* Oily mixtures are drank, as well as externally

* Wilson, l. c., p. 34.

applied; particularly those in which ghee, mimosa catechu, marking-nut plant, and myrobalans have been boiled. These ingredients are ground into a paste with water, and triturated together with four times the quantity of ghee, and twice the quantity of an infusion of the fruit of the myrobalans is added, four times that of water, and the whole is boiled together, forming a mixture, to be taken according to the strength of the patient and severity of the disease. Various electuaries and syrups are used, made of honey, molasses, and ghee; containing the nimbgaledupa, keranja, Wrightea antidysenterica, myrobalans, catechu, and other vegetable substances, and sometimes iron filings are recommended. These medicines are sometimes given in the form of pills, in which mercury is the chief ingredient. In other cases, quicksilver, with twice the proportion of sulphur is rubbed together, with the milk of the costus or ficus glomerata, and given in the form of pills with honey. Other pills contain calcined copper, calcined quicksilver, iron filings, the pyritic ores of iron and copper, and the sulphurets of arsenic. This medicine is usually given in the form of the sublimate. The following, called the talakeswara rasa, consists of equal parts of the red and yellow sulphurets of arsenic, a pyritical ore of iron, (maeshika) pure

mercury, salt and borax: grind together, add twice the quantity of sulphur and calcined copper, to that of quicksilver employed, and they are to be rubbed together with lemon juice. Expose it daily to the sun, or to a low heat for six days, triturating the mass each time with a fresh quantity of acid juice; add a second portion of copper, and two of iron calx; grind for a day in lemon juice, and add one-thirtieth of aconitum ferox (visha). The dose of this is a nishka, or two mashas, with buffalo's ghee and lime juice, followed by an electuary of bakuchi seed, with honey and ghee. Dose, one kersha, or less than half-an-ounce.

Blood-letting is frequently employed in the cure of leprosy, and it is removed from different veins. When prominent patches form, scarifications, leeches or caustics, are used.

The following may therefore be considered as the best means of curing leprosy. Use freely catechu by mixing it with the water of the patient's bath, in his drink, food, and medicine, while he avoids animal food, wine, and fatigue. When the disease is subdued, use purgatives freely to prevent a relapse.

With these means, attention to diet, wearing clean clothing, and a proper degree of exercise is to be used. Such treatment will generally cure

recent attacks of the disease; especially if emetics are given every fortnight, purgatives every month, and venesection twice a year. Two tolás of the powder of turmeric in cow's urine are to be taken at the same time, every day for one month; and every third night an errhine is exhibited.

Treatment of White Leprosy.—The diet in white leprosy is the same as in the black. The treatment consists in the exhibition of external and internal medicines: for the former, take of the flowers and leaves of cæsalpinia bonducella, calotropis gigantea, euphorbium, tapia cratæva in equal proportions. Mix to the consistence of paste, with the urine of the cow, and apply it to the part affected. The juice of the mango tree is mixed with the bark and leaves of the myrobali, the mixture is to be put into a copper vessel, and mixed with the juice of the Ficus Indica. It is then burnt, and the ashes are mixed with a decoction of myrobalan and mustard oil. This medicine is to be rubbed over the affected part.

The *internal medicines* employed for white leprosy are very numerous. The following mixture is an example: Take of the powder of the root of plumbago zeylencia, black-pepper, dry-ginger, and long-pepper; macerate them in cow's urine, in an earthen water-pot, in which ghee had been kept,

and some honey; keep the mixture for a fortnight, strain, and give one tolà for a dose.

A kind of leprosy, (*bâta-rakta*). Under this head several diseases are described; such as certain forms of rheumatism, abscesses; and such a cachectic condition may terminate in true leprosy. This disease is produced by the blood being diseased with *wind*. Its exciting causes are using saltish, pungent, or sour food, and alkaline salts. In like manner spices, or other hot articles, indigestible articles of food, putrified or dried meats, as the flesh of crocodiles, of the buffalo, of the rhinoceros, or the like. Tíl oil-cake, and other indigestible articles of food, curdled or butter-milk, bad wine, and excess in eating or drinking, the passions, unhealthy or improper mixtures of food, such as onions, kulatha, tralic, &c., eating too often, watching at night, or sleeping during the day, produce this disease. Delicate constitutions, and fat people, who lead a sedentary life are pre-disposed to it, and is ushered in with copious perspirations, insensibility, and a dark appearance of the skin. Long continued riding on horses, elephants, or camels, and whatever produces great heat of the body, and diseased blood, which is conveyed by the wind to the feet, where it accumulates, and produces this

disease, first in the feet, and then in other parts of the body. *Bata-rakta* is ushered in sometimes by free, at other times by a cessation of perspirations; the body becomes of a dark hue, and parts have no feeling. If there are sores, they are painful; the joints are loose, the person feels languid, and cannot work; and small pimples appear over the body, with pain of a gnawing or lancinating kind, as if ants were eating the flesh, or needles thrust into the skin. The knees, legs, thighs, loins, shoulders, hands, and arms, are so affected. The pain intermits, and these parts become heavy, without feeling, and the skin has patches of an unusual colour.

1. When *wind* is much deranged there is severe pain of the body, as if ants were eating the flesh, and the vessels, nails, fingers and joints are contracted. The patient has no appetite, and if not treated the symptoms increase. The person cannot work, the body shakes and is hot, with rigidity of the joints.

2. When *blood* is much deranged, swellings appear over the body, with much pain. The skin is of a copperish colour with slight stinging pain, and is neither relieved by heat nor cold. If the patient takes oil and dry food, in small quantities, he feels better.

3. When *bile* is deranged the body feels hot, with a burning sensation, and dulness of intellect. He perspires much, has fainting fits, with an appearance of drunkenness and thirst; pressure on the part produces great pain, with redness, heat, swelling, and sometimes abscesses are formed.

4. When *phlegm* is deranged the person is very cold, as if a cold wet cloth was applied over the body, which feels heavy, and without feeling. The skin is smooth, shining, and itchy, and feels cold, with slight pain.

When two or three of the above humours are affected the symptoms resemble the two or three forms, as above enumerated.

In some cases the ankles and wrists are first affected, and then the disease extends over the body like the poison of certain animals, as rats.

The disease is incurable, when accompanied with a sore from the ankle to the knee, or when it is opened and pus escapes in large quantities. When the person is very weak and reduced in flesh, the disease will be fatal; but if the person lives for a year, or the disease is chronic, he will live. When severe, the person cannot sleep, has no appetite, has a difficulty in breathing, parts of the body slough, he complains of headache, fainting, delirium, pain in the body, thirst, fever, is stupid,

with shaking, hiccough, contraction of the fingers and toes, so that he can neither walk nor work; erysipelas appears with a vascular itching eruption. Severe pain is felt in the vital parts, tumours appear over the body, want of memory, fatigue, and delirium follow, and precede death. When all the symptoms of this severe form of the disease are not present, it may not be fatal. If recent, and none of the severe symptoms are present, the disease may be cured. When only one of the humours is deranged, as wind, bile, &c., and the disease is recent, it may be cured; but, if two of the humours are deranged, the disease will remain; when three are affected the disease is incurable, and when all the severe symptoms are present the disease will be fatal.

The treatment of this disease is to be commenced by general and local bleeding; when the patient is not weak, or much reduced in flesh, emetics and purgatives are then to be used. If the wind is much deranged old ghee is to be administered, with the milk of goats, prepared with liquorice, honey and sugar. In other cases, wine and other medicines are recommended.

Til oil may be prepared in the same way as the above. These mixtures are to be administered internally, and applied externally. In other cases

the powder of myrobalan with sugar is administered. A powder composed of five corns of long-pepper, is to be taken daily for ten days, and is to be decreased by degrees for a fortnight, during which time the patient should live on rice and milk.

The diet in this disease should consist of the simplest food in small quantities; as old rice, barley, flour, milk, broth of wild animals, and the decoction of a kind of pea. When the disease is violent, bleeding should be repeated several times, and emetics, purgatives, and enemas are to be given. Such persons should live in a shut-up room, avoid currents of air during the treatment, and sleep on a long comfortable bed, with soft pillows. The body should be shampooed, and he should avoid fatigue, sleeping during the day time, intercourse with women, anger, and heating, salt, or sour food.

Order 3. *Hæmorrhagia (Raktapeta).* This order of disease is supposed to be produced by bile deranging the blood, and is divided into those which occur from the mouth, nose, ears, eyes; from the anus, urethra, vagina, or from the skin.

When phlegm is affected with the bile and blood, the bleeding proceeds from the mouth, ears, nose, and eyes; and when with deranged wind, it produces discharges of blood from the

anus, urethra, and vagina: the worst form is when the skin discharges blood. Previous to the invasion of this peculiar disease, the person feels the body cold, with much saliva in the mouth, and vomiting. The respiration has the smell of blood.

Hemorrhage is sometimes caused by anger, grief, fear, wrestling, and other severe gymnastic exercises; and the too free use of hot things, as pepper and salt; or sour articles, when taken in considerable quantities. In other cases the improper mixtures of food, or exposure to the heat of the sun, or to fire, by which means the chyle is deranged, which irritates the bile, and mixing with the blood produces *Raktapitta*. It may thus occur from above downwards, or from the surface of the body. This blood usually proceeds from the spleen or liver.

Immediately before the disease occurs the patient feels languid, the body weak, cold, and cooling things are desired. His throat is burning hot, as if he had swallowed smoke, with vomiting. The breath has the smell of quenched iron. When produced by deranged *phlegm*, it is known from the blood discharged being very thick, of a yellow colour, shining, and glutinous, and mixed with phlegm of a gray or brown colour, of a thick consistence, and with a yellow froth. When the *wind*

is affected, the blood is florid, with much froth, and thin. When *bile* is deranged in this disease, the blood has an astringent taste, and is of a dark colour, or of the colour of cow's urine, and as if mixed with different colours, as of the colour of smoke, or of a dark colour, like *swina*. When wind and phlegm are affected, the discharge takes place from the upper as well as the lower parts of the body. This form is always dangerous.

The symptoms which terminate this order of disease are weakness, difficult breathing, cough, fever, vomiting, and slight head-ache; sometimes the patient faints, and his skin is yellow, hot, and after eating, the pit of the stomach burns. Should the patient recover, he will be left pale by the loss of blood. He is restless, and has severe pains in the chest, with hoarseness, head-ache, and the discharge of fecal matter by the mouth; he has no appetite, is languid, and what is eaten is not digested.

The unfavourable symptoms in this disease are when the discharge is like the water in which flesh had been washed, or like a vegetable decoction; or is of a liver colour, or like water mixed with mud. When it resembles pus mixed with blood, is dark, like the fruit of the black-berry, or is of a variegated colour, like the rain-bow, such

cases are fatal. When there is frequent vomiting of blood; when eructations have the taste of blood, when the eyes are red, and everything appears the colour of blood, the case is hopeless.

When *phlegm* is deranged the blood is evacuated by the mouth; when *wind* is deranged it is by the anus; and when the two are deranged, the blood is evacuated above and below. When the blood passes above, the person may be cured; but not so readily when below. When evacuated both ways, it is incurable. When the person is strong, the disease recent, not severe, and the discharge only occurs one way; and when the person in general feels well, with no other bad disease, it may be cured.

The hemorrhage from a stout person is not to be stopped at the beginning; as it otherwise will produce jaundice, dyspepsia, leprosy, enlargement of the spleen, fever, and swelling. When the blood is evacuated from the urethra or anus, emetics are to be administered; and when from the mouth or nose, purgatives are to be used. If the person is very weak, the discharge of blood may be stopped by administering astringent drugs.

When wind, bile, and phlegm are much deranged, and the person strong, he should fast for some days, after which he may drink rice-water, with

a little rice, sugar, lemon-juice, and the juice of grapes. Several decoctions and electuaries are also recommended with preparations of ghee, to cure this complaint. The purgatives are to be mixed with the juice of grapes and liquorice root, sugar, and the juice of other sweet fruits. Emetics are always to be used with honey, water, and the decoction of liquorice.

The diet should be cold water, and the flesh of wild animals, boiled rice, broths made of gram, and different vegetables, seasoned with ghee, and mixed with the juice of the pomegranate, myrobalan, with the broth of pigeons, turtles, and shell-fish. Different preparations of rice, as conjee with ghee may also be used.

The body should be anointed with oil, and cold applications are to be applied to the body. In this disease the juice of the rose-apple leaves, or mangoe leaves, and the juice of the fruit of figs may be used with rice water, and the root of the cucumber. In other cases half a tolá of liquorice root is infused in water; the pulp of the seeds of *ingodah* with liquorice root, and sugar-cane bruised, are to be kept in a new earthen pot for one night steeped in cold water, with the flower of the water-lily, and taken with honey.

If the blood proceeds from the nose, the powder

of myrobalan should be snuffed up the nostrils. After a great loss of blood, the patient may drink the blood of animals with honey, or he may eat the flesh and unprepared liver of a goat with the bile. The juice of horse-dung with honey and sugar is also recommended. The powder of fried rice, with honey, sugar, and the white silicious concretion (*tabasheer*) found in the bamboo is also used. A decoction of the bark of rose-apple, mangoe, and *orgona* tree, are to be taken with honey; and cold and sweet applications are recommended, both internally and externally.

Order 4. *Rheumatism (A'mbát.)* This disease is produced in dyspeptic patients, who lead a sedantary life, taking improper food, or are intemperate. All indigestible food has this effect; such as oleaginous articles, particularly when the person, at the same time, takes much exercise. From such causes the chyle is not properly prepared, and undigested food is carried from the stomach into the great abdominal vessels. The deranged chyle produced in this manner, by the morbid condition of wind, bile, or phlegm, is like mucilage, and deranges the system, and is the cause of all the varieties of this disease. The deranged phlegm and wind are accumulated in the loins, producing pain and rigidity, and from the loins it extends over the body.

The general symptoms are pain over the body, indigestion, thirst, want of appetite, languor, heaviness, fever, and there is a swelling, with a deadened sensation of the parts. When this disease is in such an aggravated form, it is most difficult to cure.

When the deranged phlegm and wind, with the morbid chyle, pass to the wrist, ankle, neck, scalp, hip, knee, loins, and other joints, it produces a burning sensation, much pain, like the bite of the centipede, with swelling. The person feels great lassitude and low spirits, and has a copious flow of mucus from the nose; he cannot sleep, complains of pain and hardness in the abdomen, and is distressed with thirst, vomiting, giddiness, fainting, pain in the chest, costiveness, weakness, &c.

When bile is much deranged in this disease, there is a burning sensation, and redness of the part, and when wind is principally deranged, the pain is very severe. When phlegm is much affected, the itching and rigidity of the part are considerable, and it feels as if it was covered with a wet cloth. When one humour is alone affected, it is curable, when two it is difficult to cure, and when three, and the whole body is affected, the cure is very difficult and tedious, and the disease is even fatal in some cases.

The treatment should be commenced with fasting, fomentation, diaphoretics, tonics, and stomachics. Heating medicines with purgatives and enemas are of much use in this disease. The sand-bath is also used, and on the leaves of the castor-oil plant hot sand is to be placed, and this is to be applied to the pained parts. The following vapour-bath is also recommended. Steep old rice in water until it ferments; the water is then poured off, and a tolá of each of the following medicines is put into it:—The seeds of dolichos biflorus *(kulattha)*; teel seed *(til)*, the root of the castor-oil shrub, barley, linseed, and boerhavia diffusa alater (*punarnaba*). Add four seers of hot water, boil, and in this state place the vessel with the mouth partly closed under the chair, in which the patient sits, his whole person being covered with a thick cloth. Several pots may be prepared in the above manner. He will thus remain for twenty minutes to half an hour.

Several kinds of plasters are likewise used. The following is a specimen of this class of medicines:—Take of the roots of the abrus precatorius (*hingshira*), kebuka, morunga, (guilandina sigrua): mix with cow's urine and the earth of ant-hills, so as to form a paste, which is to be applied hot to the affected part. For a purgative

take half a tolá of convolvulus turpethum (*teuri*), sixteen ratis of rock salt, and a little ginger, with two ounces of conjee water. These are mixed and exhibited as a purgative. The tonic and stimulating decoctions are to be followed by a light farinaceous diet, and Susruta recommends the patient to wear a warm dress, and to reside in a warm close room.

Order 5. *Jaundice (P'andu.)* This disease is produced by excessive fatigue, eating earth, sour or salt food, or drinking much wine. It is likewise produced by sleeping during the day, and eating very hot things, which derange the wind, bile, and phlegm.

There are five kinds of this disease produced by deranged wind, bile, or phlegm; when all these three are deranged together; and when produced by eating earth, especially chalk. When the wind, bile, or phlegm are diseased, they derange the blood, and produce the pale or yellowish white colour of the skin. Before the disease appears, the skin feels as if pinched, the sputa red, the person cannot do any work, and has a desire to eat earth; his eyelids swell, the dejections and urine are yellow, and whatever is eaten is not digested.

1. When *wind* is deranged, producing this disease, the skin, urine, and eyes, or other parts, are

rough, dark-coloured, and brownish, with shaking pain over the body, and the dejections and urine are constipated, with giddiness.

2. When the *bile* is deranged, the urine, dejections, and eyes are of a yellow colour, the body is hot, with thirst, and fever, there are frequent dejections, and the surface of the body is very yellow.

3. *Phlegm.* In this form the phlegm proceeds from the mouth and nose, the person often dozes and complains of lassitude and heaviness of the body; the skin, eyes, and face are of a whitish colour; the urine is also pale, and the stools of a white colour; and there are nausea, thirst, and failure in health, followed by anasarca.

4. When the *wind*, *bile*, and *phlegm* are at the same time deranged, there is fever, no appetite, retching, and vomiting, the person complains of thirst, and the body feels painful and tired. When such a person is very weak and insensible he will die.

5. When produced by eating earth, there are three kinds; one deranging the *wind*, another the *bile*, and a third the *phlegm*: Astringent earth deranges *wind*, salt-earth *bile*, and sweet-earth *phlegm*. When earth deranges the elements of the body, whatever is eaten remains undigested,

the blood which is formed stops the mouths of the vessels of the intestines that carry the chyle, blood, &c., and they derange the senses. The strength of the body is impaired, and the surface becomes pale and yellow. In this form of jaundice the person feels drowsiness, languor, and cough, has difficulty in breathing, pain in the belly, and feels no appetite; his cheeks and eyelids swell, as well as the legs, umbilicus, and penis; diarrhœa occurs, and the dejections are as if they consisted of a mixture of blood and phlegm, with worms.

When there is much fever with dyspepsia, nausea, vomiting, thirst, and languor occur; when the person is very weak and insensible, or when the disease is caused by the derangement of the three humours, or when it is very chronic, with rough skin and swelling over the body, the prognosis will be unfavourable. Should the patient see everything yellow, he will not soon get well. When he is constipated, when the dejections are yellow and mixed with phlegm, when the attack is accompanied with diarrhœa and much fever, restlessness, and thirst, and when the eyes, teeth, and nails become yellow, the prognosis must be unfavourable. In like manner, when the extremities are swollen, and the trunk is thin, or when the trunk is swollen, and the extremities are lean;

or when there is much swelling about the anus, penis, and scrotum, the prognosis must be guarded. When the patient suffers much, when he is senseless, or is attacked at the same time with dysentery and fever, the physician should avoid treating him.

A variety of jaundice is produced by eating much sour, salt, and other indigestible food after an attack of jaundice. The symptoms in this form of the disease, are a yellowish or reddish colour of the urine and stools; and the functions of the five senses are impaired, with a sense of burning of the body, a loss of appetite, dyspepsia, and an obtuseness of the mental faculties. In this case the bile is much affected, and produces yellowness, particularly of the face and skin, accompanied with drowsiness, loss of strength, and the other symptoms above stated. In this form the body becomes of the colour of a fig.

In some cases the patient is delirious, his body is hot, he has no appetite, is thirsty, drowsy, and the dejections and urine become constipated. Such cases are unfavourable. In other varieties the person dozes, and the internal fire and the understanding are much affected. Such persons will soon die; as will be the case when there is vomiting, with no appetite, fever, debility, noise in breathing, cough, and frequent dejections.

Another form of jaundice is produced by wind and bile, and is characterised by fever, pain over the body, giddiness, languor, drowsiness, thirst, loss of appetite, emaciation of the body, with the symptoms of the form of jaundice produced by wind and bile, weakness, especially of the sensual appetites, and a burning sensation of the body.

The treatment of jaundice should be commenced by exhibiting several doses of mild purgatives, and emetics. The purgatives usually consist of cassia fistula, or myrobalan with sugar. Before taking these he should partake freely of ghee, which had been boiled with turmeric. The patient's body should be anointed with oil, after he has taken the above mixture for several days, and it has acted freely. The next object is to discharge impurities from the head by means of errhines with glysters; such as the powder of the oxide of iron, with ginger, black and long pepper. It is also recommended to give the droppings of the goat, mixed with black salt and turmeric. These are made into a powder with honey, and taken frequently for several days. A quarter or a half-a-tolá of the powder of the bark of convolvulus turpethum may also be exhibited in sugar, as a purgative. A wine produced by fermented sugar is also to be used in this disease. Butter-milk and

rice must be taken for a long time, as they will improve the appetite, and cure the disease. The patient should also take broths prepared with venison and prunes.

If wind, bile, and phlegm are much deranged, medicines to cure these are to be given with other remedies. If the patient, along with the above symptoms, has swelling of the anus, penis, and scrotum, and is senseless, with dysentery and fever, he is not to be treated.

In the form of jaundice with swelling of the joints, inflamed eyes, and fainting and vomiting, the rust of iron is recommended to be heated to a white heat, eight times, and each time it is to be thrown into the urine of the cow. This is then powdered, and taken with honey in doses of about half-a-dram.

In another variety of jaundice, prepared ghee with the juice of raisins, menispermum glabrum, and myrobalan, is often used with advantage; two ounces of each, being boiled in a seer of water, until this is dissipated.

Order 6. *Nervous diseases.* Deranged wind, filling the empty vessels in different parts of the body, or over the general system, produces the varieties of the disease. This is caused by the continued use of dry, cold, sour, or light articles of food,

taken in unusually small quantities; excessive fatigue and watching; improper and violent exercise; fasting; and copious discharges of blood, or other evacuations; also by much jumping, swimming, or fighting, wearing wet clothes, &c. Any cause producing the absorption of parts by which the individual is weakened, and swoons; too much thinking, sorrow, grief, fear, and other diseases producing emaciations; sleeping uncomfortably during the day, or in an unusual position; anger, the accumulation of indigestible food, or certain injuries of vital parts, produces these diseases. They are also caused by the person falling from a height, by riding very fast on an elephant, horse, or camel. These causes derange wind, filling the empty vessels in one part, or over all the body, and thus produce this disease.

When wind is so deranged, it produces the following symptoms: the muscles of the small joints are contracted with rigidity, and cannot be moved. These symptoms are accompanied with so much pain that they seem as if broken. The skin becomes rough, the person speaks nonsense, and complains of pain in the joints of the hand, back, and head; he cannot sleep, nor walk with vigour, is deformed, and his members become thin. When women are so affected, they have miscar-

riages, and it diminishes the semen, and stops menstruation. The parts affected shake, there is no feeling in them, the person has severe pain in the head, and no smell; the eyes become dry and dull, and a painful weight is felt in the pit of the stomach, and stiffness of the nape of the neck. These symptoms are accompanied with spasm of different parts, with loss of sense and great fatigue.

These different causes, and the parts of the body affected, produce various forms of disease. When the wind is deranged in the abdomen, the dejections and urine are constipated, pain is felt in the abdomen and its sides, and diseases of the heart, hysteria, hydrocele, and piles are produced. When wind is deranged, generally there is much pain over the body, which shakes with pain in the joints. They feel as if broken. When situated in the pelvis it stops the usual evacuations, with great pain and flatulency, and produces gravel and the stone. In women it produces deformity of the fœtus, and plurality of children. When wind is deranged in the anus, the legs, thighs, os coccyx, hands, and back are painful, and the body is thin. When deranged wind is situated in the stomach, the sides, back, scrobiculus cordis, and navel are painful, with thirst, belching, and cholera; the person complains

of spasms, and the throat and mouth are dry, with cough and asthma. When wind is deranged in the small intestines, they make a noise, there are scanty dejections, little urine, uneasy cholicy pains in the abdomen, and in the lower part of the back.

When wind is deranged in the *organs* of *sense*, it destroys their functions; when deranged in the skin, it becomes dry, rough, has no feeling, is of a black colour, and is painful. In some cases it is stretched over the body without wrinkles, and is of a red colour, accompanied with pains in the joints, and slight chops in the skin.

When wind is deranged in the *blood*, great pain is felt in the body, which is hot, and the colour of the skin is unnatural. The body is thin, the person has no appetite, and the skin has red eruptions over it, the joints are painful, and what is eaten is not digested; the body is unwieldy, and the person cannot work. When wind is deranged in the *flesh* or *fat*, the body is heavy with pain, as if beaten with a stick, and the person is much fatigued.

When wind is deranged in the *bones* and *marrow* the long bones and joints are very painful; the person's strength and flesh become diminished; he has no sleep, and pain is very severe and continued.

When wind is deranged in the *semen*, it is quickly discharged, or is constipated; and in women it retains the fœtus long in the uterus, or abortions are produced. The semen in such cases has an unusual colour, and produces twins.

When wind is deranged in the *vessels*, it imparts a painful contraction, or fulness to the vessel. When wind is deranged in the *nerves* (tendons?) the whole body may be diseased, or it may be confined to one situation. This produces opisthotonus, with lameness, spasm, and cramps of the leg, with hemiplegia. When in the *joints* it produces swelling, and pain in the joints.

When the vital air, situated in the thorax, is deranged with bile, it produces vomiting, with a burning sensation of the parts. When this wind is mixed with phlegm it produces weakness, debility, languor, and drowsiness, vomiting, and the taste for food is changed.

Vital air in the throat, when mixed with *bile*, produces great heat in the body, swooning, fainting and languor. When mixed with *phlegm* there is no perspiration; horripilation is felt over the body, the person becomes melancholy, there is little internal heat in the stomach, and the body feels cold.

Vital air in the umbilical region, when deranged

with bile, produces much perspiration, a burning sensation of the body, fainting and swooning. When mixed with phlegm constipation of the dejections and urine, and a state of goose-skin over the surface may be remarked. The vital air in the anus, when mixed with bile the body is very hot, or is only slightly warm, and the urine is bloody. When mixed with phlegm the person has a sense of heaviness in the lower part of the trunk, and the body feels cold.

When vital air all over the body, is mixed with bile the body is very hot, and there are convulsions of the extremities, with great fatigue. When mixed with phlegm the person remains stupid and rigid, and he feels pain, and swelling of the body.

Different varieties of nervous diseases are thus supposed to be produced by derangements of the wind (*bayu*). In *Bhavaprakashá* eighty varieties are described. The following may be considered the most important:—

1. When wind is much deranged, and passes into the different vessels, it produces contractions of the body. This form is called spasmodic convulsions.

2. When wind is deranged, and rises from its situation, it produces pain in the chest, head, and temples. The body and members are bent like a

bow; and it produces convulsions. The person has difficulty in breathing; the eyes are fixed and shut. The person faints and moans, and has little sense. This form is called rigid spasms, in which the body is drawn up either backwards or forwards, or to either side.

3. When the eye remains fixed, with loss of consciousness, the person makes a peculiar noise, wind is dislodged from the chest with relief, which is followed by weakness of the senses.

4. When wind is mixed with phlegm, and is situated in the vessels, the person is rigid like a stick.

5. When the body is bent like a bow.

6. When the wind is deranged in the fingers, ankles, belly, or neck, it contracts the nerves of these parts, and forces the body forward, accompanied with tetanus, and expectoration of phlegm; the eyes are fixed, and severe pain is felt in the sides.

7. When the wind affects the veins of the back, it is incurable, as the breast, thighs, and back joints are broken by the violence of the symptoms. This variety of the disease is produced by external injuries, in miscarriages, and copious hemorrhages.

8. There are also two kinds of this variety of

disease, one affecting one side of the body, and another affecting one half of the body taken transversely. When wind affects the vessels and nerves of one side, it produces this disease; the person loses the power of the part, which is without feeling, there is looseness of the joints. When deranged wind alone produces hemiplegia, the disease will be cured with difficulty. When wind and bile, or wind and phlegm produce this disease it may be cured; but when there is great weakness of the essential parts of the body, as after hemorrhage, in parturition, after injuries of the part, the disease is incurable.

9. When all the body is palsied, and when wind and bile are both deranged, they produce great heat of the body, and fainting. When wind is deranged with phlegm, the body is cold, swollen and heavy.

10. Tetanus and Trismus. When the wind is deranged by a person's speaking very loud, or by eating large mouthfuls of meat, or hard things, or laughing much, or gaping or sleeping uncomfortably, or bearing heavy weights, it affects the lower jaw or half the face and neck, which it draws laterally, and the head shakes. The person cannot speak, there is a deformity of the eye, nose, mouth and neck, with pain in these parts, as also

in the chin and teeth, and the senses are in an unhealthy state. The dangerous symptoms of this disease are when the patient is weak, and the pain severe, and he cannot move his eyelids, nor speak distinctly; when the mouth is turned to one side, and when the shaking of the part of the body, as the head, has continued for three or more years. In all these spasmodic diseases the symptoms for a time disappear, and again recur. The treatment of tetanus should consist of a mild emetic, followed by the exhibition of drastic purgatives, and in some cases bleeding from the arm, and hot baths.

11. Sometimes while cleaning the tongue, with the tongue-scraper, when eating dry and hard food, or by external injury, the wind is deranged in the joints of the jaw, and they are sometimes dislocated, when the mouth remains open—called *bibritissaha.* A second form named *hanugraharog,* the jaw is locked, and the patient is unable to speak or eat.

12. When sleeping in the day time, especially in an unnatural position, or when regarding intensely an object from below, wind may be so deranged, and mixed with phlegm as to produce stiffness of the neck, which remains straight and rigid. This is called *manyastambha.*

13. When the wind affects the nerve of the tongue, it becomes rigid and immoveable, and the person cannot speak, eat, or drink.

14. When wind enters the blood-vessels of the head, the vessels become dry, black, and painful, producing head-ache.

15. When wind attacks the buttocks, back, loins, hips, thighs, knees, legs, and feet, it produces pain in these parts; which passes from one to the other, often without being properly defined. In other cases the affected parts shake; sometimes when wind is mixed with phlegm, it produces heaviness of the part, dyspepsia, and drowsiness.

16. When wind affects the tendons of the back of the hand and arm, it produces a disease in which there is no motion in the hand or arm.

17. When wind and blood are changed in a part, it swells with severe pain. In this manner the knee-joint may become large, like a jackal's head.

18. When wind is deranged in the loins, or sides of the thighs, it contracts the tendons of those parts, and the person walks feebly.

19. If both sides are affected, the person cannot walk.

20. In another form of chorea, the person limps in walking, his body shakes, or as if the person was

walking over peas, and is feeble, (chorea). In this disease the parts seem as if loosened from their natural binding. The disease is characterised by the person feeling in the commencement a trembling or shivering sensation through his body, accompanied with a dimness of sight, and a pain in the neck, jaw, or teeth, or of the part affected. These symptoms are followed by involuntary twitching of the head neck, and jaw, often of one side, especially of one leg. The patient speaks indistinctly, and then the involuntary motions extend to the whole voluntary muscles of progression, producing a dancing motion. When the disease extends over the body, and has continued long, it is considered incurable. Its exciting cause is considered to be irregularity in the bowels from eating indigestible food, too much walking or laughing, carrying great loads, &c.

21. When the ankle-joint is strained in walking, it produces pain in the ankle with stiffness. The pain resembling that of a thorn piercing the flesh.

22. Wind, bile, and blood accumulated in the feet, produce a burning sensation of the part, particularly when the person is walking. This is one of the most distressing and intractable diseases

* In some Sanscrit works the term *Ardita* is given to this disease; and others apply the term *Ardita* to Tetanus and Trismus.

peculiar to this country. It is called "fever in the feet."

23. When phlegm and wind are deranged in the two feet, they become cold, with insensibility, as when sitting very long in a particular position, when the leg feels dead, with a disagreeable numb feeling. It is called foot-numbness, and is a frequent complaint among the natives, from their sitting on the ground, in often constrained positions.

24. When wind is deranged in the shoulder-joint, it dries the ligaments and tendons of the part; which, becoming contracted, the arm is fixed.

25. When the wind is mixed with phlegm, and enters into the air-vessels (*dhamani*), the person cannot speak, or speaks slowly and indistinctly.

26. When the pain commences from the bowels and shoulder, and passes to the anus and urinary passages, it produces great pain in these parts, as if torn asunder.

27. In other patients it commences from the anus and urinary passages, and passes up to the intestines with great violence.

28. Swelling and pain, with a rumbling noise of the abdomen, produced by the air being confined in the abdomen.

29. When the swelling is in the stomach

with pain and noise, it is called *pratyadhyana;* and is produced by the wind being mixed with phlegm.

30. When a hard oblong swelling is felt under the navel, which passes from one part to another, or rests stationary, becomes prominent, and wind urine, and dejections are confined.

31. When the hard swelling is longitudinal, and is accompanied with much pain, and the urine and dejections are confined. These derangements of wind produce diseases in various situations; when deranged in the bladder, it causes the stoppage of urine, &c.

32. When wind is deranged in the head, and body, it is always shaking. The disease is called *bipatu.*

33. When wind is affected in the feet, legs, thighs, and wrists, it produces spasms. The other diseases of wind, are named according to the part particularly affected.

In all these nervous diseases it is of importance that the physician observe whether the symptoms of bile and phlegm, &c., are present, as they will affect his prognosis and treatment. In lock-jaw, or paralysis of the face, spasmodic diseases, hemiplegia, and epilepsy, our prognosis may be favourable, when the person is strong, the disease is

recent, and is not accompanied with any bad symptoms. This is particularly the case when the patient is rich, as the treatment will generally be tedious.

The unfavourable symptoms are when the disease is accompanied with erysipelas, or with severe burning sensations, with great heat and pain, as if the body was torn, and with constipation, fainting, and loss of appetite, or when the digestion is very weak. In such cases the patient will die. These diseases are also dangerous when the person is swollen, when the parts are without feeling, and are accompanied with flatulency and shaking of the body, with great pain and weakness.

Should the wind not be deranged, and be confined to its usual situation, the person will live for many years free from disease.

Treatment of Nervous disease. After distinguishing the disease, the next object is to find out the proper remedies for it, and how to exhibit them. When this is not attended to, the practitioner's reputation and his income will be diminished; and if he does not use remedies on the discovery of the disease, it will be like a plant, which at first was easily removed, but when allowed to enlarge, and take deep root, it is removed with great difficulty.

In nervous diseases oily enemas are to be used several times a day, and the body frequently anointed. Preparations of milk are much used in this class of disease. The decoction of coriander seed, with a mixture of various vegetable stimulants and antispasmodic medicines, with oil and ghee, are often employed with advantage. When the joint is contracted, mix together oil, ghee, the fat of animals, and the flesh of the crocodile, and turtle; boil them together for some time, and apply it frequently warm to the parts. When there is much spasm, apply the mixture with a piece of cloth. Hot baths with hot douche, and shampooing are also of much use. Oily purgatives are useful, and hot oil in bladders is to be applied to the head, when there is headache. Emetics, and leeches to the part are also recommended. Several aromatic and anodyne substances, with ghee, are to be inhaled. Errhines of different kinds, with prepared oil or ghee, are also used.

In this class of diseases the *diet* should consist of milk, broth and meat, with sweet and acid fruits. The person should wear warm woollen or cotton clothes, and the room should be in the centre of the house, cool, without any currents of air. The bed should be comfortable, and have soft cushions;

and the person must avoid intemperance in eating and drinking, and intercourse with females.

When the *wind* is deranged in the stomach, he should take equal parts (half a *tola*) of the powder of the root of plumbago zeylanica, the seed of the Wrightea antidysenterica, cissampelos hexandra, hellebore, atesor betula, and myrobalan, mix, and give five ratika for a dose. Repeat this medicine several times a-day, and continue to take it for seven days. When deranged in the small intestines, oily purgatives, enemas, and food with salt are to be used. When deranged in the bladder, diuretics should be given. When affecting the senses, prepared oil and ghee are to be applied to the parts. When affecting the skin, flesh, and blood, venesection is recommended. When deranged in the large tendons, joints, and bones, pressure is to be used, as by shampooing and rubbing the part frequently with prepared oils, bandages, and the application of hot irons over the affected part.

When the whole or half the body is affected, heat is applied in various ways to produce perspiration. The patient embraces hot stones, and is put into a hot room. In other cases, they dig a hole which they heat, put leaves in it, and the person lies down in it, and when he is in a free

perspiration, he is removed to his bed. Venesection is recommended when the whole body is affected, and cupping is used in the variety which is local. When there is no feeling in the part, the application of the actual cautery, and of a mixture of oil, salt, and soot is recommended to be rubbed into the part.

The treatment of dislocation of the lower jaw consists in surrounding it with a cloth, and reducing the dislocation (*bapuskas*). When the jaw is fixed by tetanus, they apply prepared oil or ghee externally, so as to keep it well moist during the treatment, and then endeavour to open the mouth by force. When open, a mixture of medicines to produce a free discharge of saliva is recommended; such a mixture is formed by the powder of long-pepper and ginger. At the same time the mouth should be frequently gargled with warm water. He should also eat garlic with salt. Numerous other oils and medicines are recommended in this dangerous class of diseases. For the cure of headaches, exhibit emetics, errhines, and the application of hot oil in bladders to the head.

Order 7. *Swellings.* Different names are given to different varieties of swellings, or tumours. They are produced by wind, bile, and phlegm, which derange the flesh, blood, fat, and ves-

sels, forming round swellings, which often run into each other, and produce emaciation of the body. When *wind* is deranged, the swelling is oblong, of a dark colour, large, soft, and painful, as if a part was cut, or a member torn. If it bursts it discharges blood. When *bile* is deranged, producing a swelling, the part feels hot, and the pain is burning and dragging. When opened, the inside is very hot, of a reddish and yellowish colour, and much blood is discharged. For curing it, leeches should be applied, followed by a milk and water poultice. For the same object, the astringent juice of certain plants is applied with advantage to wash the part. Detergent medicines, as honey, ghee, and caustic preparations are also applied. When *phlegm* is deranged in the part, the swelling is cold, enlarges slowly, and is very hard and itchy. It should be treated in the usual manner, and when ripe, it should be opened, when consistent purulent matter is discharged. The cavity should be cleaned with the juice of bitter herbs. *Fatty swellings* occur in fat persons, when it is large, shining, very itchy, but not painful. When opened it discharges matter like the oil-cake, of a greenish colour. For the cure of this swelling, a paste of sesamum seeds are applied, two folds of cloth are placed over the part, and

a hot iron is to be frequently passed over it. If the tumour is not dispersed, the knife must be had recourse to. In this and all other scrofulous affections, emetics and purgatives are occasionally exhibited. Errhines are also of use. The actual cautery is applied across the arm immediately above the wrist, leaving the interval of the breadth of a finger between each application.

Swelling of vessels (aneurisms.) These are produced by violent exercise, as wrestling, which diminish the wind, and shorten the vessels, which swell quickly in one part of their course and dry them up in another. This disease is cured with much difficulty, especially when painful, and when it changes its original position. Should it remain stationary and be without pain it is less so; but if it occurs in a sensitive part, as the temples, it is incurable. In this form of swelling, plasters (leeps) are applied, and ghee and other medicines are rubbed over the part to promote perspiration. When wind, bile, phlegm, and blood are deranged in a part, a large, round, deep fleshy swelling forms, with a large base and little pain. It enlarges slowly, and does not ripen. Such tumours vary according as the wind, bile, phlegm, blood, and flesh are de-

ranged. When blood is affected, the wind, bile, and phlegm is previously disordered; when the vessel contracts in length, and forms a round tumour, it does not ripen. In some examples, the tumours are small, coalese, and form large swellings. This variety grows quickly, blood is discharged, and it is incurable.

When the tumour arises from diseased flesh, there is no pain; but the swelling is hard, stationary, of a shining appearance, natural colour, and does not ripen. It is cured with difficulty; and when it occurs in sensible parts, is immoveable, with a constant discharge, it is hopeless. When the tumour is produced by diseased marrow, it is generally considered incurable. From diseased phlegm and bile, the tumours are accompanied with fever and disordered brain, it is generally dangerous.

Fatness. When a person remains without exercise, sleeps during the day, takes too much ghee, milk, and preparations of sweetmeats, rice, and different kinds of indigestible cakes, the chyle becomes oily, and sweeter than natural, and as it circulates it produces fatness. It is accompanied by the following symptoms:—the person feels a difficulty in breathing, with thirst, is inert, always sleepy and restless, is fond of stimu-

lants, and cannot excite the body to work; such a person has always a good appetite but eats little at a time, and is not strong; his perspiration is copious with a disagreeable smell. He speaks indistinctly; and the other essential parts of the body are not nourished. The fat is alone increased, and the abdomen becomes enlarged, which stops the wind, dries the food in the stomach, and thus increases obesity. Such persons generally die of diabetes, carbuncle, fever, fistula-in-ano, or large internal abscesses. They are also subject to diseases of the wind, which are always severe. When such a disease occurs, the person should avoid the causes of fatness; and should take different preparations of iron and the powder of bitumen, with cow's urine. Amyris agallochum and the sulphurate of antimony is recommended internally, with honey and water, barley, a kind of pea, and other kinds of dry tonic food. Exercise, enemas, with tonics, and those medicines which make the body thin should also be used.

Order 8. *Emaciation.* There are five varieties of this state; from a diminished quantity of wind, bile, and phlegm, from long diseases, and from a discharge of blood and pus. The first variety is from a diminution or unusual discharge of semen; and another variety is produced by the person using

dry food, which does not contain much nourishment, as astringent and pungent kinds of food, and much exercise: should he indulge in too much study, fear, grief, thinking, watching at night, or takes food sparingly, the chyle is formed and absorbed in small quantities, does not circulate and nourish all the parts of the body, which produces emaciation. In such a state the person becomes weak and cannot bear hunger or thirst, heat or cold, currents of air or rain; is liable to the attacks of nervous diseases, or diseases of wind, and will die of asthma, consumption, acitis, dyspepsia, swelling, hæmatemesis, or hæmoptysis, with severe attacks of other diseases.

Such a person should use milk, ghee, animal diet, and sweet articles of food, with barley, and flour. He should sleep in the day time, avoid fatigue, and not work much. Tonics, with alteratives should be occasionally exhibited.

SECTION IV.

DISEASES OF THE REGIONS OF THE BODY.

The few opportunities which the ancient Hindus had for dissecting, and being wedded to the hu-

meral pathology, explains the manner in which they described the particular diseases of the regions of the body. They distinguished the seat and offices of the different organs, with singular accuracy (Wilson*), from their observation at the bed-side of the patient, while their descriptions of disease were often rendered indistinct by their theoretical fancies, but without affecting their judicious treatment.

As the best means of proving the accuracy of these observations, and the extent of their practical knowledge, I have arranged their descriptions of disease, according to the regions of the body; or those of the brain, head and neck, chest, abdomen, urinary and generative organs, with those of the rectum and anus, of the extremities, and trivial diseases.

CLASS I.

DISEASES OF THE BRAIN.

These diseases are fainting, epilepsy, and madness. Most of these, we have already seen, are supposed to be produced by deranged wind.

* Tran. Med. and Phy. Society, Calcutta, vol. iii, p 413, et sequ.

Order 1. *Fainting* (*murchha*). When a person is very weak, or when the wind, bile, and phlegm are much deranged, by poison, or eating improper mixtures of food, such as milk and fish, or flesh, exposure to the sun, injuries, constipation, &c., produce this disease; in which the organs of sense, both external and internal are disordered, with faintness. When deranged wind and phlegm close the passages and vessels of the eye, the person cannot see, and falls down as an inanimate object. There are six varieties of this disease, but in all the bile is deranged. The six are produced by derangements of wind, bile, and phlegm, by blood, drinking spirits, and poison.

The approach of this disease is known by pain in the breast, gaping, languor, constipation, loss of sense, and strength. These symptoms are the same in all the varieties.

1. When produced by derangements of wind, everything appears of a dark-blue, or red colour like the sky; when the person cannot see, and faints, but the senses soon return. There is shivering, pain of the body and breast, with weakness. The skin becomes dirty, and of a reddish, or green colour.

2. *Bile.* The person first sees everything of a very red, yellow, or green colour, and he becomes

blind, and faints. He is soon restored to his senses, with perspiration and thirst. When he recovers, the skin becomes yellow, the body hot, eyes red, and dejections yellow.

3. *Phlegm.* He sees everything of the colour of clouds; the sky appears misty and dark, followed by fainting, in which he remains long insensible. The body feels as if a piece of soaked leather had been put upon it; and phlegm is discharged from the mouth and nose, followed by nausea and vomiting. When these diseases occur, and the person does not feel when needles are thrust into his flesh, red hot irons applied to the surface, or hot substances put into his mouth, he will die.

4. Seeing blood produces swooning from its containing earth and water, which possess the properties of *tamoguna*. In this fanciful manner the Hindus explain the occurrence of fainting.

5. When swooning is produced by poison, there is shivering, drowsiness, thirst, followed by weakness and insensibility. There are different kinds of this variety, but all produce these symptoms. Fainting is generally caused by deranged bile, when mixed with *tamoguna*, or darkness. When bile and wind is mixed with *rajoguna*, it produces swooning, and drowsiness; coma is produced when

wind and phlegm are mixed with *tamoguna;* and phlegm and *tamoguna* when mixed together produce sleep.

6. Drinking spirits derange the wind, bile, and phlegm, and produces talkativeness, drowsiness, and swooning, which continue until the effects of the spirits cease. Another form of this disease is apoplexy. It is produced by the deranged wind, bile, and phlegm, which pass to the place in which life is retained, and overpower all the functions of both mind and body; and the person suddenly falls down, and remains as if dead, or like a piece of wood. If not immediately and properly treated, such a person will die.

In general all the symptoms of swooning will disappear in a few minutes, with the exception of apoplexy *(sangnyása)* which requires immediate treatment. In all forms of swooning throw cold water upon the face and body, rub the body with the hand, allow a free circulation of air, and assist this by means of the *pankha.* Wet the mouth with cold water, and apply errhines, such as the juice of sweet fruits, as of grapes, pomegranates, dates, the juice of wild animals, barley, and good rice; in like manner prepared ghee with a decoction of myrobalan, or a mixture of fried rice, grapes, honey, sugar, and the juice of the pomegranate, with the

petals of the water-lily. The treatment followed in bilious fever is also recommended.

The treatment of apoplexy is difficult, and requires promptitude. Should the person not soon recover from the swoon, needles are to be thrust under the nails, and remedies which produce strong irritation are to be applied externally, with sweet music; and use constant and long-continued frictions of the palms of the hands, soles of the feet, and calves. They give internally curdled milk and lime-juice, in some cases with a weak stimulus. When the person is restored to sensibility, he is to have an emetic, and a purgative followed by the exhibition of a stimulating injection. One of the varieties of this disease is the sun-stroke, which is becoming more common in Hindostan, as the natives live fuller, and particularly use heating food, and not unfrequently indulge in spirits and wine. This disease is much dreaded; and to prevent it, the natives envelope the head and neck in thick folds of cotton cloth, during the hottest season.

Order 2. *Epilepsy, (apasara or mrighi.)* The person falling down, with convulsions, and a sudden loss of sense and sight. These symptoms are preceded by palpitation of the heart, lightness and hollowness of the chest and body, perspiration,

inaccurate thinking, dulness of sense, and loss of sleep.

When wind, bile, and phlegm are deranged by grief, sorrow, or the like, they pass into the vessels immediately communicating with the heart, and produce this disease, with the loss of sense and memory. It is also caused by the improper use and indulgence of the senses; as too much, or too little listening, seeing, tasting, smelling, &c.; improper mixtures, or putrified articles of food; the neglect of the calls of nature; connection with women during the flow of the menses; and by such passions as sorrow, grief, and anger. By these causes the mind is so affected as to produce epilepsy.

There are four kinds of this disease, one being produced by the derangement of each of the three humours, and the fourth by the combination of the three. When wind is deranged, the symptoms of epilepsy are followed by shivering, grinding of the teeth, foaming at the mouth, and hurried respiration; and to the patient every object appears obscure, red, and confused. The treatment best adapted for this form of disease consists in the use of enemas, with ghee.

When *bile* is deranged the symptoms are accompanied with yellowness of the body and coun-

tenance. To the patient everything appears of a yellowish colour, the sputa are of the same colour, and the eyes appear red. The patient has great thirst, and everything feels hot, and as if enveloped in flames. In treating this disease, the ghee should be prepared with bile of different animals, which may be used for all kinds of epilepsy. Venesection is also recommended. Another remedy is, giving a wild boar purgatives for three days, then rice and milk; when this has been digested, he is killed, and the chyle in the vessels removed, and mixed with water, put in a new pot, and when it has arrived at the vinous fermentation, given to the patient.

When *phlegm* is deranged, the symptoms are whiteness of the countenance and body, the saliva and foam are of the same colour, the body is cold, and the patient shivers. The person sees everything white, and as it appears to approach near him, he faints. These fits cease very slowly. The general indications of cure are to give enemas in derangements of wind, purgatives in those of bile, and emetics in the form produced by deranged phlegm.

When wind, bile, and phlegm are deranged together, all the symptoms of the separate forms are present. This variety is incurable if not

recent, as the person becomes weak and emaciated, and the fits are frequent, and accompanied with severe convulsive movements of the body. The eye-brows contract frequently with the eye-lids, and the eyes move rapidly. In such cases the patient will die. The fits come after ten days, or a fortnight, or monthly. In other cases they occur very often; as some seeds thrown in the ground during the rain, do not germinate for a long time after, so in this disease, the deranged wind, bile, and phlegm produce the disease after long intervals. In this form of epilepsy the body should be anointed with *átuk*, which is to be taken internally, and at the same time strong errhines, emetics, and purgatives should be administered.

Order 3. *Madness (unmada)*. The term insanity comprehends, according to the Hindu law, not only madness and idiocy, but likewise all those patients who labour under any species of fatuity, and who are naturally destitute of power to discriminate what may, and what may not be done. The causes producing this disease are improper food, great exertion, strong passions of the mind, as joy, grief or fear, the effect of poison, &c. By such causes the wind, bile, and phlegm are deranged, so as to affect the seat of the understanding

* M'Naughton's Principles of Hindu Law, vol. i., p. 121.

and the heart, and pass through the vessels conveying sense, and developing madness; when the individual speaks foolishly, and is restless, and his eyes are continually rolling.

There are six kinds of madness; three being produced by derangements of wind, bile, and phlegm; one by the combination of these; another by the violent actions of the passions; and the last by poison.

1. *Wind* may be deranged and the mind affected by the use of dry, cooling articles of food; by food in too small quantities; by strong purgatives; by the causes diminishing the humours, or by fasting. By these the wind is deranged, and illusions are produced terminating in madness; in which the man laughs, dances, and sings unreasonably, and moves his limbs about; or at other times cries without cause. The skin of his body becomes dry, rough, and of a dark-red colour. These symptoms are more violent after the digestion of the food; and the patient becomes greatly emaciated.

2. When *bile* is generally deranged by the use of indigestible food, and of pungent, sour, and heating substances, the symptoms it produces are impatience of control, and anger; the person wishes to use violence to others; he remains

naked, prefers cooling food, and wishes to live under the shade, or in water. The body is yellow and hot.

3. When *phlegm* is deranged by the usual causes, as a too sedentary life, and taking too much nourishing food; by which the functions of the heart are affected, and the following symptoms are produced: a love of solitude, taciturnity, or indistinct articulation, and loss of healthy appetite; the person has a desire for women, enjoys deep sleep, and has vomiting with copious expectoration. After eating anything the symptoms are very violent, and the body as well as the nails and countenance are whitish.

4. When *wind*, *bile*, and *phlegm* are deranged together, all the separate symptoms are produced, and the disease becomes very difficult to cure.

5. When the disease is produced by the passions; as when one has been frightened by a robber, a tyrannical official, &c.; by the loss of wealth, or of friends, or by the love of particular women, the symptoms are characterized by talking, laughing, singing, and sometimes crying. This variety terminates in idiocy.

The *treatment* of the above five forms of madness should consist in cleaning the body, and anointing it with mustard oil heated by the sun for two

hours, as recommended by Charaka; giving ghee for some days, and then strong purgatives and emetics, with errhines, and mustard oil. But this treatment must be varied with the cause producing the disease. When caused by bile, emetics; by phlegm, emetics, purgatives and enemas are to be given; with prayers to God and advice: cases arising from the passions are curable by knowledge, by mechanical means, exercise, studying the shastres, temperance, and love of the gods. Curious or wonderful exhibitions may be made before the patient, and he should be informed of the death of relatives and friends; or may be frightened by the alarm of robbers, by the approach of elephants, and harmless serpents. He should be threatened, and even beaten with a whip, when he acts improperly; and he should live on light food, such as barley, and conjee water, made agreeable by the addition of carminatives. Ghee should be given, with a decoction of vegetables.

During the cure the person should be generally treated, as much as possible, with kindness, and consideration.

6. When madness is produced by poison, the person becomes faint, from the sudden loss of strength, and of the senses; the eyes becomes red, and the countenance and the body become yellow

and the mouth blue. The unfavourable symptoms are when the person is weak and emaciated, remains in one position, and is always looking downwards, or upwards. When the patient has no sleep, and is so courageous that he will throw himself from a height, the disease will be fatal.

The treatment in this variety is the same as that for poisons in general.

CLASS II.

DISEASES OF THE HEAD AND NECK.

These are diseases of the head and senses; the second class of the Ayur-veda, and includes diseases of the ears, nose, eyes and mouth, with those of the neck.

Order 1. *Diseases of the Head.* Under this order will be arranged the varieties of headache, and the diseases of the organs of sense.

Headache. There are eleven varieties of headache, which are produced by derangements of the wind, bile, and phlegm; by the combination of the three; by diseased blood; by a deranged or diminished state of certain humours; by worms, and other causes.

1. When *wind* is diseased in the head, it is suddenly affected with pain, which is severe at night; and is diminished by hot applications, such as warm water upon the head, and sometimes the water is mixed with medicines, and tight bandages are applied. A hot poultice composed of fish, and the expressed oil of sesamum is recommended, to be applied to the head; but to cure this variety of headache, use ghee, milk, and *mudga* (a kind of pea) boiled in water; with *máskalái* at night.

The smoke produced by oleaginous substances and errhines are to be applied, purgatives exhibited, and his person is to be anointed with prepared oil, while vegetable oils should be given, mixed with food, and medicines useful for curing deranged wind. The patient must avoid bitters, hot milk, warm baths, and *douches* applied to the head.

2. *Bile.* In this variety the head is hot, as if burning charcoal were placed over it, and there is an appearance of smoke proceeding from the nostrils. The pain is diminished when the head is kept cool during the night. Medicines are to be given with cold water, milk, ghee, oil, and the like, and applications are to be made to the head; as vinegar, the juice of the sugar-cane,

and of acid fruits, or whey. The paste of aqueous plants, purgatives, enemas made with oil, and broths made from the flesh of wild animals, are also to be used.

3. *Phlegm.* In this variety the head is heavy, feels cool, can be turned about with difficulty, and the eyelids and mouth are swollen. The medicines which cure diseased phlegm are to be used, such as strong emetics, errhines, purgatives, and gargles. The head should be rubbed with a paste made of liquorice root and ghee. The bark of *inquido* is also useful; and snuff made of the bark of *katfala.* The patient should likewise take the decoction of those medicines which cure phlegm, and live on rice and barley, mixed with long and black pepper and ginger. The decoction of *mudga* (a kind of pea), may also be used.

4. When the three humours are diseased, the different symptoms are combined. In this form the treatment is the same as that above described, varied according as the symptoms of one or other of the humours predominate, with the use of old ghee internally.

5. When the blood is deranged, producing this disease, the symptoms are the same as when bile is affected; and the pain is so severe, that the head cannot be touched, or bent forward.

6. When the disease is produced by a diminution of brain, fat, phlegm, or blood in the head, it produces great uneasiness, and sneezing, and the head becomes hot and painful. This pain is increased by hot applications, smoke, emetics, errhines, and blood-letting. In this form nourishing food is to be used, with prepared ghee applied internally and externally; as recommended in pulmonary consumption. The medicines used for the cure of diseased wind may also be employed.

7. Worms sometimes produce severe pain in the head, as if an animal was eating or tearing the head. When a watery, red, or bloody purulent discharge flows from the nose, the patient's life is considered in danger. The treatment consists in using medicines to discharge the worms, such as blood used as an errhine, which will stupify them. Stimulating snuffs are also of use, such as the powder of the seeds of *shringi*, and *biranga*, mixed with cow's urine, and other vermifuge medicines, by which means the worms will be expelled.

8. *Headache during the day.* When the sun rises, the eyes and brow feel painful; and this continues and increases while the sun is above the horizon. It diminishes in the evening and towards night;

and is produced by derangement in the wind, phlegm, and bile. For curing it, use old ghee and other medicines, as above mentioned; and the food is to consist of milk and rice, with broths made of wild animals.

9. *Neuralgia.* When wind, bile, and phlegm are deranged in the back of the neck, they produce great pain, particularly in the eyebrows, temples, and cheeks. They also produce shaking of the head, pain in the lower jaw, and diseases of the eyes. This variety is to be treated in the same manner as the last, but particularly by the puncture or division of the diseased vessel. The diet should be sweetmeats prepared with ghee, honey, sugar, and flour, with the remedies which cure bile and wind.

10. *Hemicrania.* When much dry food is used, it produces this disease; so does eating without an appetite, or too frequently; also, by exposure to the easterly wind, or dew, and the abuse of venery. When the urine is suppressed and the bowels are constipated, when the person is subjected to grief, or severe exertion, he is liable to the attacks of this disease; and also derangements of wind and phlegm. The attack occurs sometimes every fortnight, in other persons every tenth day, or in others every day. During the paroxysm the

half of the neck and head, including the brow, temple, ear, and eye is very painful. When severe, like the effect of poison, or feels burning, and the sight and hearing become imperfect, it is very obstinate and most distressing; so that sometimes a thousand physicians cannot cure it. In this form errhines prepared with the powder of the seeds of sirisa and radish *(mulaka)*, or long-pepper and bacha are exhibited. An external application is formed by mixing together the paste of hemidesmus Indicus (*shariba*), pulchuk root (*kushtha*), water-lily and liquorice (*madhuka*), made into a paste with the juice of acid fruits, ghee, and oil. This is applied over the head. The broths made of the flesh of wild animals, with ghee, and cold applications, are also useful. The head should, in this disease, be always kept well anointed with mustard-oil: If the headache is not checked by the above means, blood-letting should be performed.

11. *Shankhaka.* When wind, bile and blood are deranged, they produce severe pain, redness and swelling in the lower part of the brow, which becomes hot. This form is dangerous like poison. When the person cannot swallow, he will die in three days. But if he lives beyond this time, medicines may then be given for the cure. The

treatment is the same as of the last variety, avoiding hot applications.

Order 2. *Diseases of the Ears.* The increased secretion from the external ears, and the sudden changes of temperature of the air, render diseases of this organ of frequent occurrence in India. They produce much suffering, and much attention is paid by the Hindus to their nature, prevention, and cure.

There are twenty-eight diseases of the ear, and deranged wind is the chief cause. When confined in its passage by the other humours, it produces severe pain in the organ, which is called *karna-shula*, and is very difficult to cure. Fatigue, or eating hot or astringent substances, or the frequent use of errhines, produce a derangement of the wind in the ear passages, which consist in a peculiar noise, like stringed instruments.

When wind is deranged with phlegm in the ear passages, if not treated properly, it will produce deafness. In others the disease is produced by blows on the ear, by water entering the ears while bathing, or by a boil forming in the part, which suppurates and deranges the wind.

When wind and phlegm are deranged in the ear it produces itchiness; and when bile is deranged it dries up the phlegm and wax in the ear.

When the wax melts it passes out of the nose or mouth (*Susruta*), and is accompanied with much pain in half the head.

If worms form in the ear, from flies depositing their eggs there, or when wounded or otherwise injured, the affection receives another name. In these cases there is great pain, burning, and tightness in the part, with a discharge of yellow pus or blood. By the derangements of bile abscesses may be formed.

When phlegm is deranged and dried up by the heat of the bile, it melts, and then it is discharged from the ear, with a disagreeable smell. There are also four kinds of bloody tumours, seven varieties of other tumours, and four kinds of swellings to which the ear is liable.

Cutting off ears and noses was, and still is, a frequent punishment,* and the formation of a new ear, so as to remove the deformity, is often practised. This was the more marked among the Hindus, as the ear was the place for hanging ornaments, especially among the rich. To remove such defects, Susruta recommends the surgeon to prepare a new ear or nose, by raising the skin from the neighbouring part, leaving a strip of skin to keep up its vitality.†

* In Cashmere, "the number of persons without noses or ears are incredible."—*Honble. E. Eden "Up the Country."* Vol. ii. p. 161.

† See vol. i., page 387.

In diseases of the ear, ghee is given, with rest, bathing, and avoiding moving the head. Oleaginous purgatives are given, and the steam of water impregnated with different herbs which cure wind diseases, is conveyed to the external ear by means of a tube. Fish, cock's flesh, and that of a bird called *laba* are to be mixed and applied hot to the ear; or the leaves of the banyan tree are made into the form of a cup, which is heated over a fire, and the drops of juice which ooze through the leaf are applied hot to the ear. The juice of garlic and ginger is also of use. Other stimulating and narcotic medicines, and different oils are likewise recommended for these diseases of the ear: strong errhines may be used with advantage.

In deafness, oil is prepared with cow's urine mixed with a decoction of *billah*, and applied to the ear. Milk and water are also of use. Strong errhines and fumigations, fomenting the part, oil dropped into the ear, and various astringent decoctions will befound of use. Gum-resin, frankincense, powdered with the juice of the wild cotton tree, are useful when applied to the ear. Worms are removed by the application of medicines that expel them. The sulphuret of arsenic with cows urine is thus found of use. For removing the bad smell from the ear,

use fragrant fumigations. Mustard-oil will remove the ringing in the ears. Inflammation of the ear is treated as other local inflammations. For the morbid secretion of wax, remove it by instruments and fomentations; and emetics and errhines are to be administered for the itching of the ear. For removing external substances from the ear, exhaust the air in a cow's horn, and apply it tightly upon the part.

Order 3. *Diseases of the Nose.* There are thirty-one diseases of the nose; such as when the nostrils are closed, when one is dry, very dirty, and hot, when matter has formed, and when the patient can neither smell nor taste: this disease is called *pinasa*, and is produced by a derangement of wind and phlegm. When the wind is stopped in the palate and nostrils, there is a bad smell which proceeds from the mouth and nose. The treatment should consist in anointing and heating the body. Then an emetic and purgative are to be given, and errhines exhibited. Hot easily digested food is used in small quantities; boiling water is to be taken as soon as possible, and the part exposed to steam, impregnated with aromatic substances. The powder of pepper, dry ginger, &c., may be mixed with mustard oil and the urine of cows, boiled together, and used as an errhine.

Bile when deranged in the nose produces small pimples, which quickly suppurate. In this disease a disagreeable discharge often proceeds from the nose, for which blood-letting is used. When blood flows from the nose, the wind, bile, and phlegm are deranged. When the vital part of the nose is wounded, deranged wind, &c., passes through the nostrils, producing a bad smelling secretion mixed with blood. When stimulating substances are applied to the nostrils, or by looking at the sun, or irritating substances applied to the nose, the wind is mixed with phlegm, and passes from the nostrils with a noise. If phlegm thickens as by the sun, it has a saltish taste. If hot air proceeds from the nostrils, and wind is discharged like smoke, or is very hot, it forms another disease. Phlegm, when deranged with wind, so as to close the nostrils; and when wind, bile, and phlegm are deranged in the nostrils, it dries; or when the discharge is thin like water, it is of a yellowish, red, or white colour.

When the nose is very hot and dry, and the passage of air gives great uneasiness. The disease is called *Nasaparishosha.*

Polypi of the nose, and tumours of the nostrils, are described under the head of surgery.

Pinasa has an acute and chronic form. In the

first, the head is heavy, the patient has no appetite, and the discharge from the nose is thin. The voice becomes altered, with occasional vomiting and weakness of the body. When chronic, the phlegm as it is discharged from the nose thickens, and the voice becomes unnatural. The colour of the skin is natural, and the discharged phlegm is thick, and very adhesive.

One variety is produced by eating indigestible food, and allowing the accumulation of dust in the nostrils; speaking or crying much; frequent fits of anger, unusual and sudden alteration in the seasons, such as want of the accustomed rain, and exposure to the sun, watching or sleeping during the day, being wet with very cold water or dew, hot tears passing into the nostrils, and excesses of any kind, produce the diseases of the nose. By these causes the humours are deranged in the head, producing the usual symptoms of catarrh; the general symptoms of which are sneezing, heaviness of the head, languor and pain, and stiffness over the body. When produced by *wind*, the nostrils become filled, there is a thin discharge, with dryness of the throat, palate, and lips, with severe throbbing pain in the temples, hoarseness, sneezing, and bad taste in the mouth.

When *bile* is deranged the symptoms are a hot

discharge of a yellow colour, and the body is weak, of a gray colour, and hot. There is much thirst, and what is vomited is hot like smoke.

When *phlegm* is deranged the discharge is white or grayish, and is copious and cold. The body becomes pale, eyelids swollen, head very heavy, and the throat, palate, lips, and head are itchy, with a loss of strength.

When *wind, bile,* and *phlegm* are together deranged, the symptoms occur rapidly, disappear, and recur again, whether acute or chronic. At one time the nose is clean, but it again becomes dirty, dry, and closed, accompanied with fœtid breath, and loss of smell. This is the bad form of the disease, and is cured with difficulty. If neglected, it passes into *pinasa.* When it has continued for a long time it produces deafness, blindness, loss of smell, cough, and dyspepsia.

When *blood* is deranged, and is discharged from the nostrils, the eyes are reddish, with pain in the chest. This form is produced by injuries of the chest, and both the mouth and nostrils have a bad smell. The patient loses the sense of smell, and worms are produced in the nostrils. These worms are small, and of a black and white colour; and if not treated by the practitioner early, are not always curable.

There are seven forms of tumours which appear on the nose, four swellings, and four kinds of polypi and hemorrhage, which produce so many diseases of the nose.

For their cure ghee is to be introduced into the nostrils with fomentations. Emetics and errhines are also to be employed, with light food, and warm water as drink. Smoking, with aromatic herbs, is also recommended. In this disease mustard oil is used, and should be prepared with the following medicines:—*Hingu* (assafœtida), black and long pepper, and dry ginger, with the fruit of the vitex trifolia, are boiled in cow's urine, until this is dissipated, and is used as an errhine.

In case of bleeding from the nose, antiphlogistic means are to be used, as the application of leeches, and the paste made of the bark of the trees which produce a milky juice, as the banyan tree.

When pus and blood are discharged, it is to be treated as a fistula in other parts of the body; when the decoction recommended for deranged bile and blood is to be administered.

In *pinasa*, hot substances are to be eaten, as ginger with salt, so as to thicken the mucus, and when chronic, ghee is to be taken internally with emetics. When the mucus becomes thick it is to be discharged by means of errhines, purgatives,

gargles, and smoking aromatic substances. The person should remain in a shut up place. His head should be kept warm, and he should avoid cold water and fatigue. He should also avoid grief, dry food, and new wine. When accompanied with fever, vomiting, languor, and diarrhœa, fasting is recommended with tonics and carminatives.

Order 4. *Diseases of the Eye.* There are seventy-six diseases of the eye, of these ten are wind diseases, ten bile, thirteen phlegm; twenty-five are produced by the derangement of the three humours, sixteen by blood, and two external diseases. These diseases are again subdivided into nine of the joinings of the eye, twenty-one of the eyelids, eleven of the sclerotica, four of the black part, seventeen of the eye in general, twelve diseases of the true organs of vision, and two external diseases from injuries (Susruta).

1. *Description of the Eye.* After a description of the figure of the eye, it is stated that it is formed by a combination of all the elements. The flesh being produced by the earth, blood from the fire, the black part from the air, the white part from the water, and the different canals for the tears are produced by ether or sky. The black part extends over one-third of the eye, and the pupil about one-seventh part of the black part. The tunics are the

two eyelids, covering the globe of the eye. The first tunic of the globe surrounds the vitreous humour, the second is covered with flesh, the third with fat, and the fourth with bone. They distinguish five circles, the eyelashes, eyelids, the white sclerotic coat, the iris, and the pupil. There are five joinings, the eyelashes with the eyelids, the eyelids and white of the eye, the white with the transparent cornea, and this with the pupil, and the caruncula lacrymalis. The humours are carried into the eye by the vessels, and produce many diseases.

The causes of these diseases are bathing when the body is very hot, intensely regarding minute objects, or those at a great distance, or sleeping at irregular periods, frequent crying, grief, anger, external injuries, excessive fatigue, indigestible or sour articles of food, as the *maskalai* pea. Irregularities of seasons produce them, retaining the tears in the eye, smoke and dust, profuse vomiting, or stopping it suddenly. These causes, with derangement of wind, bile, and phlegm, or blood, which are conveyed into the eye by the vessels, and produce different diseases in different parts of the eye. The general symptoms of diseases of the eye, are its changing its natural colour, with pain, redness, a discharge of tears, and a burning sensation in the eye, as if there was an

external body in it. The eyelids feel painful, as if thorns or sand were under the eyelids, and there is intolerance of light.

There are four varieties of inflammation of the eye, produced by derangement in the wind, bile, phlegm, and blood. The ten diseases of the wind are characterised by severe pain in the eye, which remains immoveable, a feeling of sand in the eye, which is dry, with an inclination to rub it. The patient complains of headache, and the tears are cold.

Bile produces inflammation of the eye, which is characterised by a burning pain, with the discharge of blood and pus. The eye seems to be covered with a haze, feels hot, and has a yellow colour. There is likewise a discharge of warm tears, and a desire for cold applications.

Phlegm, when it produces inflammation, is characterised by hot applications being grateful to the eye, which feels heavy, swelled, itchy, and cold. There is also a copious discharge of cold tears, which are of an oily nature.

Inflammation by *blood* is characterised by a copper coloured discharge, the eye is red, and the small vessels of the eye become turgid. Before this appears, the peculiar symptoms of bile are present. When this inflammation is neglected, or

improperly treated, it produces one of the four varieties of severe ophthalmia. This aggravated form has the following symptoms: severe pain, as if the eyes were torn; throbbing, which extends to half of the head, and is characterised by the above symptoms, of each variety. When produced by phlegm, it will destroy the eye in seven days; if blood is diseased it will destroy the organ in five days, if air in six days, and if bile in one day. In the acute stage of this ophthalmia the pain is severe, as if a foreign body was in it, with redness and swelling, and a copious discharge of tears from the eye. When merely chronic the pain is less, with itchiness in the part, the discharge of tears is slight, and the eyelids can be opened, and the globe appears healthy. When the inflammation produced by wind is neglected, the accessions recur at intervals, and produce pain of different kinds. The eye swells, becomes itchy, suppurates, and is red like a wild fig. When the other symptoms are the same, it may suppurate without swelling. The eye in such cases is very painful, and the disease is incurable.

In another form of the disease wind is deranged, and the eyebrow and eye are painful, so that the person winks, and brings the eyelids forcibly together. When the eyelids are dry, and suppu-

rate, the eye is very painful, the sight is defective, and the patient cannot open the eyelids.

When the *wind* of the neck and head, ears, cheeks, or vessels of the back of the neck, or in other situations are deranged, the eyebrow and eye are very painful. In such cases, the eye is of a greenish colour with a red circumference, from the colour of the blood in the part, which extends over the eye, and is hot, swollen, and tears continually flow. This is produced by sour articles of food, and is accompanied with more or less pain in the eye-ball, which becomes red. When neglected, the discharge is of a copper colour, and the person cannot see. These are the diseases of the ball of the eye.

2. *The diseases of the Cornea.* When ulcerated the coloured part appears spotted, and the pain resembles the pricking of pins; the discharge is hot, and if not near the pupil, and there is only one ulcer, without pain or discharge, it may sometimes be cured. When the ulcer is of long standing, extensive, and deep-seated, it is difficult to cure. When depressed in the middle and the margin elevated, it will destroy vision. When both cornea and iris are ulcerated, with a red margin, and are of long standing, they are incurable.

When the inflammation is in the cornea, with a burning sensation, it becomes pale like the

moon, it is curable. If of old standing, is white, large, and deep-seated, it will be cured with difficulty. The opacities of the cornea following inflammation are incurable.

Small tumours, slightly red, which protrude through the cornea, and from which a bloody discharge proceeds, mixed with pus, accompanied with pain, are incurable.

3. *Diseases of the membranes of the Eye.* When the conjunctiva is diseased, vision is indistinct. When the second tunic is affected, the sight is very imperfect, and the person sees an appearance of motes, musquitoes, and net-work. In other cases, the rays are in the form of a circle; everything is indistinct, as if immersed in water, or like rain, clouds, and darkness; and the person cannot distinguish distance, so that near objects seem far off. When the third membrane is deranged, he can neither see above nor below; large objects appear covered, and he cannot distinguish the features of anything placed before him. Such a person may have double or triple vision, which is produced by the disease of the fourth membrane.

The crystalline lens is the principal part of the organ of vision. It has the form of a pea, and is produced by a mixture of the essential parts of

the five elements. It resembles the firefly, and it is largely supplied with the eternal fire. It is covered by the external tunic of the eye, has externally an opening (pupil?); and is kept cool in its healthy state. The diseases of this part of the eye are tedious in their cure.

When the whole crystalline lens is affected, but not deep, the person can see the moon, stars, and lightning. When wind is much increased, the patient sees every moving object red; and when bile is affected, he can see the sun, the rainbow, the firefly, and lightning. In other cases everything appears black and variegated, like the feather of a peacock. When affected by phlegm, every object appears as if covered with oil, water, and white paint. When the three humours are deranged, everything appears spotted, as by a mixture of different colours. When blood is deranged, every object appears white, yellow, red, and dark; and when the crystalline lens is affected, the colour is made up of six different tints.

When the eye is affected with deranged bile, it is characterised by a yellow colour, and images appear of that hue. If it affects the third membrane, he cannot see during the day, but can see at night. When *phlegm* is affected, it is characterised by the pale appearance, and everything

seems white. When deranged in the three membranes of the eye it is called night blindness. He can see during the day. Grief, fever, vexation, severe diseases of the head, produce diseases of the eye, in which every object appears enveloped in smoke. In other cases the person cannot see small objects during the day, but sees everything at night. When wind, bile, and phlegm are deranged, it produces a change in the iris like the mungoose eye (which is very red), and everything appears of a mottled appearance during the day. When *wind* is deranged, it produces the disease in which the pupil of the eye is contracted, and it diminishes the size of the eye, and is accompanied with great pain. When produced by accidents or injuries to the eye, the person cannot see; the organ becomes red like coral, and severe pain is felt as if a person was tearing the eye out.

4. *Diseases of the sclerotic membrane of the Eye.* In one form of this disease there is a thin red, or dark-coloured membrane covering the white part of the eye. In this disease the enlargements are white and soft, and it advances slowly; in other cases, the fleshy growths are of a red colour; and a ptergium is a liver-coloured stationary thickening of the white part of the eye. In one form

it is thick, fleshy, and of a white colour. In another form there are many small spots of a white or green flesh colour; in others it is in the form of a red spot. A round white elevation of the white of the eye, like a drop of water, is produced by phlegm and wind. The white part, in this case, is like a net-work, with hard small vessels of a red colour, diffused over the surface, or in which pale pimples appear in the white of the eye, surrounded by enlarged vessels, or it is of the form of a silvery copper-coloured spot surrounded by vessels.

5. *Diseases of the joinings of the Eyes:—of the eyeball, cornea, and sclerotica, eyelids, eyelashes, &c.* These diseases are nine in number. The part diseased sometimes swell, suppurate, and are painful, with a discharge of blood and thick pus. Another form swells much, but does not suppurate; is itchy, with slight pain. When wind, bile, and phlegm are deranged at the joints, and the tears are discharged over the eyelids, it is called fistula lacrymalis, of which there are four varieties, according to the nature of the discharge.

When small pimples appear at the joints of the eye, of a red colour, they have a painful burning sensation. Sometimes this occurs at the juncture of the cornea and sclerotica, accompanied with

the same symptoms as the last. Sometimes worms are produced at the juncture of the eyelids and eyelashes. They produce much itching, and sometimes form between the eyelids and the white part of the eye. They are of different colours and forms, and eventually destroy the eye.

Diseases of the Eyelids. There are twenty-one diseases of the eyelids. In this class of diseases, wind, bile, and phlegm may be diseased in a combined or separate form. In other cases these derangements affect the vessels of the eye, and the blood and flesh, &c., may separately, or when combined, produce diseases of the eyelids.

Small eruptions upon the internal part of the lower eyelids, sometimes open internally; and are produced by diseases of the blood, and of the three humours. When swellings at the borders of the upper eyelid break, pus and blood are evacuated. They are like small castor-oil seeds, and are produced by the three humours. Another form of swelling is of the colour of blood; of the size of a mustard seed, hard and itchy; and water, pus, and blood are evacuated from them. When painful they are called *pathakya.* Numerous clusters of small eruptions, irregular, elevated, and situated on the inner side of the lid, are called *bartma-sharkara.* Another form are small like melon seeds,

have little pain, are situated in the eyelids, and are rough to the feel. When like the new shining germ of a plant, the eyelids are long, hard, indolent and irregular, and the patient cannot open the lid, it is called dry hemorrhoidal tumours of the eyelid. Another form is very hot, painful, and of a copper colour; and is soft and small, with little pain. Sometimes the eyelids are covered with small eruptions, and all the small swellings have the same appearance and colour, and are stationary. Another form of swelling is when the lids are swollen, itchy, and painful, the lids being tight over the eye, and the eyelids do not completely cover the globe. The internal part of the eyelid is sometimes spungy, hot, painful, of a copper colour, and changes quickly to a red colour. In this disease bile is deranged, affecting the blood, and much dirty matter is discharged. Sometimes the swelling of the lids is both external and internal, with burning and itchy pain of a dark yellow colour with a discharge; and at other times the upper lid is extremely swollen, of a red colour, and much matter is discharged from its inner surface. Another variety is itchy, and is produced by the three humours.

When the eyelids are shut, and cannot be opened without their being previously soaked in

water; when the joints of the eyelids become immoveable, everted, forming ectropium; when a pendulous swelling forms on the inside of the eyelid without pain, caused by blood; when the vessels which move the eyelids are deranged, producing winking, or a continual movement of the eyes; when the small fleshy excrescences, situated in the eyelids, are of a red colour, soft, painful, and grow again when removed by the knife, they are produced by diseased blood. Another kind of tumour forms on the eyelids like a plum, and is painful, hard, thick, moist, and does not suppurate, but becomes large and knotted; when wind, bile, and phlegm are deranged, the swelling appears above the eyelid, breaks, and blood, water, and pus are discharged through many openings. In these cases, the pain is often so severe as to resemble poison. In other cases these derangements contract the eyelids so that the person cannot see distinctly; when wind is deranged, the eyelashes are turned inwards, (ectropium), and inflame the eye, and the person is always rubbing them. This is a difficult disease to cure.

When bile is deranged, the eyelids are itchy and hot, with a falling off of the eyelashes.

Eleven of the diseases of the eye are cured by the excision of the part; nine by scarifications; five

by incisions; fifteen by punctures; twelve by the use of different instruments; seven are cured with difficulty; and fifteen diseases are incurable. The two diseases of the eyeball are likewise incurable.

In treating ophthalmia the patient is to have his body anointed, and fomented according to custom; and in severe cases venesection is to be employed, followed by oleaginous glysters and purgatives. Cooling washes, and the vapour of certain medicines; such as the decoction of kantakare, (solanum melongena) with errhines, are to be applied to the diseased eye, which is then covered with a yellow-coloured cloth. In other cases, warm fomentations, and boiled hot flesh may be applied to the eye, with poultices made of milk and rice. The patient should drink milk boiled with the decoction of those plants which cure diseased wind. Goat's milk, boiled with the warm decoction of the root and leaves of the castor oil shrub may be applied to the eye.

When the ophthalmia is produced by derangement of the bile, blood-letting, purgatives, and the applications recommended in other inflammations are to be used. Ghee may be used as an external application; and in other cases ghee and goat's milk are to be prepared with different medicines. The other parts of the antibilious treatment are to

be followed; and gold rubbed in the milk of a woman, and mixed with honey, may also be applied. Liquorice root, mixed with woman's milk, or sugar and water, or a piece of cloth made of wild silk is to be moistened with water, and then applied to the eye.

When ophthalmia is produced by phlegm, abstinence, blood-letting, fomentations, errhines, and collyria, with the application of vapour are to be used. Different gargles, and irritants for the discharge of mucus from the nose, are recommended. The collyria, &c., are to be prepared with medicines which cure phlegm. The patient should eat of such substances as do not increase phlegm, and the ghee should be prepared with bitter plants. This should be repeated daily. The fomentations should be prepared with the decoctions of *bala*, (hibiscus tortuosus,) *shunthi*, (dry ginger,) *debdaru*, (erythroxylon sideroxcylloides,) *kushta*, (costus speciosus). The vapour of these medicines is to be applied to the eye. At other times various medicines are formed into a mixture, and applied externally to the eye: such as myrobalan, turmeric, liquorice, *anjana*, and antimony. These medicines are dried in the sun, and when the mixture is used, moisten it with water, and apply it upon the eyelids. When

blood produces diseases of the eye, it is recommended to use general and local bleeding, strong and frequent purgatives, errhines, cold applications, and to apply a mixture of different medicines upon the eyelids. When there is much pain use soothing fomentations, leeches, and the usual treatment for bile. The juice of nimba leaves mixed with iron and copper are also recommended. The juice of sugar-cane, honey, sugar, woman's milk, are to be applied externally, with the juice of the pomegranate. Water and sugar, rock-salt, and whey are also used as external applications.

Besides the seventy-six diseases, which are common both to children and to adults, there is another purulent ophthalmia which is peculiar to the former. It is caused by the bad milk of the mother, and also by derangement of phlegm, wind, bile, or blood, singly or collectively. It affects the eyelids. The symptoms are the child's continual rubbing the eye, as well as the nose and forehead, with great intolerance of light, and a copious discharge. In this disease bleeding is first recommended, with scarifications of the eyelids; and then apply camphor, with stimulating substances mixed with honey, in order to discharge the bad humours. With this the usual medicines recommended for the mother and child, for purifying the humours

and improving health are to be given; such as emetics, &c. A decoction of the young leaves of *jumbu* (rose apple), *amra* (mangoe), datree mulica, and myrobalan is recommended. The eyes are to be washed with this, and such like astringent medicines. The following mixture is also recommended: Take of the red sulph. of arsenic, long-pepper, burnt shell, sulph. of antimony, and rock-salt, with jagary and honey. These medicines are mixed with honey or treacle, and applied with a probe to the eye.

"There are peculiarities in the diseases of the eyes, that cannot be described; but by these general precepts an intelligent person will be able to vary his treatment according to the circumstance of each particular case."

The diseases of the eye in which the use of instruments is required are nine. Before performing scarifications, the person should take an emetic and purgative. He should be placed in a closed cool room without much light, and the eyelids should be separated by the thumb and forefinger of the left hand. Moisten the eye with a piece of soft cloth which has been dipped in warm water; and with the point of a knife the scarifications are to be made. Continue the application of the warm water as a fomentation; after which

the following mixture is recommended: take of *manageh*, (red sulphurate of arsenic,) *kases*, (sulphurate of iron,) *bosa*, long and black pepper, dry ginger, and rock-salt: mix with honey, and apply a small portion with the probe to the inside of the eye-lid. This is to evacuate more completely the bad humours. After these have been discharged, the medicine is to be removed by bathing the eye with warm water. Ghee is then to be applied to the eye. These applications are to be made, with the exception of the scarifications, every third day.

The effect of these scarifications on the inside of the eyelids is to stop the morbid discharge, and to diminish the swelling and itchiness, as the eyelid becomes smooth. Such results prove that the eyelid has been properly scarified. If not performed well, the redness, swelling, and discharge continue, and the disease is not removed. The eyelid becomes black, heavy, and is moved with difficulty; and there is much irritation in the eyelid, which sometimes proceeds to suppuration of the eye. Nine diseases are enumerated in which scarifications are to be used.

In abscesses (*bishagrenti*) of the eye, fomentations are to be used; when matter forms it is to be opened, and apply powdered rock-salt with the sulphate of zinc, long-pepper, red sulphuret of

arsenic with honey to the part, and put on a bandage. These medicines irritate, and increase the secretion of tears, and clear the organ. Then use astringent applications.

The treatment of stye consists in fomenting the abscess, and then applying the sulphurate of antimony with honey. In tubercular swelling of the eyelids, cut off the diseased part, and then apply fomentations, and a mixture of long-pepper, rock-salt and honey.

In pterygium, excision is to be used for the cure. First mix ghee with the patient's food; then apply stimulating powder to the part, followed by fomentations. The eye is then to be rubbed with the finger, and when the parts are somewhat loosened, draw the fleshy growth slightly outwards with a hook, pass a needle under it, tie it, and separate the diseased part from the cornea and sclerotica with a round formed knife. Then apply fomentations and a bandage.

In entropium, a common and distressing disease, it is recommended that from the inner to the outer canthus of the eye a portion of the skin is to be removed, about three lines in breadth, in the lower third of the upper eyelid. This operation is particularly described by Susruta, who states the kind of a room which should be used as an

operating room, the position in which the patient is to be placed, his diet, &c. After the operation apply honey and ghee to the wound, which should be brought together by hair sutors. These are removed on union taking place. If this operation is not successful, destroy the roots of the hair by the actual or potential cauteries.

Amaurosis, (*timra* or darkness; *kugul-bind*, nictelopia (?); *kanuch*, gutta serena). The patient is first to get oleaginous purgatives prepared with old ghee which had been kept for some time in an iron vessel. The ghee is also recommended to be prepared from amphibious animals. It is to be rubbed up with water and applied to the eye; different preparations of antimony are likewise recommended, such as antimony, honey, sugar, red sulphurate of arsenic, mixed together, and applied to the eye. Different collyria, fomentations, errhines and other external applications are also employed. Preparations of antimony, with other stimulants, and bleeding are not recommended, but errhines are highly extolled. Various other remedies, with nutritive diet are used, as barley with much ghee, the juice of myrobalan, and the flesh of wild animals and birds.

Cataract. In the treatment of this and other diseases, the patient should first take ghee, to

cure the diseased wind, which is supposed to derange the other humours. When the system has been brought into a healthy cool state, and the weather is neither too hot nor very cold, the operation of depression may be performed. The eyelids are to be kept properly separated by an expert assistant; the patient is then directed to look to his nose, and a knife with a point shaped like a grain of barley, and guarded by thread wound round the blade, a quarter of an inch from its point, is to be held between the fore and middle fingers and thumb of the right hand, if the left eye is to be operated on, and in the left hand, if the right eye. The knife is then carried forward near the junction of the sclerotica with the cornea, under the transverse axis, and passed on until a sufficient aperture is formed. Then introduce a blunt probe, with a flat surface near its extremity, with which detach the capsule, and depress the cataract. When the person sees well immediately after the operation, it has been properly done, particularly when the pupil appears clear like the other eye. After the operation apply the milk of a woman to the eye, with fomentations. Then cover the eye with a bandage. For ten days after the operation he must remain perfectly quiet in a dark room. During this time his food should

be light. In consequence of these precautions not being always taken, and from want of care and expertness, the operation is not always so successful as it ought to be. When properly performed a second operation is rarely necessary.

Order 5. *Diseases of the Mouth, (mukharoga.)* The diseases of the mouth are—eight diseases of the lips; fifteen of the gums; eight of the teeth; four of the tongue; nine of the palate; seventeen of the throat; and three general diseases.

Diseases of the Lips. By using too much food, such as fish, the flesh of buffaloes, milk, curdled milk, &c., the three humours are deranged, producing diseases of the lips. When wind is deranged in the lips they become painful, rough, hard, insensible, and cracked. When bile is much deranged, they are very painful, and small eruptions appear upon the surface, with inflammation, the lips become yellow, and the eruptions are painful, and suppurate. When phlegm is deranged the lips are covered with a thin oleaginous-looking eruption, and are cold, stiff, and of a dark yellow, white, or mixed colour. The three humours when deranged, extensive eruptions appear of different colours. When blood is deranged in the lips they become red, swollen, very painful, and often bleed. When the flesh is affected they become swollen,

heavy, sometimes ulceration takes place, and worms form in it, and the patient faints. When fat is affected the lips become glistening, like the surface of ghee. They are also itchy and heavy, and the discharge is like pure water. These ulcers do not heal easily.

When wind produces diseases in the lips the treatment is to apply equal quantities of goat's fat, sesamum oil, ghee, and wax, to the diseased part. Fomentations are also to be used to the lips. When ulceration takes place, apply frankincence, green resin, gum, and powdered liquorice; mix and apply them to the ulcers in the form of powder. When the disease is produced by disordered bile, apply leeches, and other local and general antiphlogistic remedies; at the same time the part is to be fomented with neem leaves, and afterwards an ointment of lard and resin is to be applied. When phlegm is diseased after local bleeding, use fomentations, gargles, and errhines, with fumigations. Powder of long and black pepper, ginger, impure soda, nitre and black salt, mix them together with honey, and apply to the part.

When fat is diseased in the lips, foment, and if the lips ulcerate apply the actual cautery, after which powdered *prangi ladra* and the three kinds of myrobalan mixed with honey. Such are the

means of curing those diseases of the lips, which admit of being cured. When the blood is deranged in the lips, the same treatment is to be followed as when the bile is deranged.

Diseases of the Gums. There are fifteen diseases described under this head. When the gums are black, and blood is discharged without any external cause, they are separated from the teeth, soft and putrid. In other cases they slough. This disease is produced by derangements of phlegm, and blood; and to cure this remove blood by scarifications, then use frequently gargles made by a decoction of dry ginger, mustard seed, and the three kinds of myrobalan.

Another disease is produced by derangement of phlegm and blood; which is characterised by painful swelling of the gums, covering two or three of the alveolar processes. In the acute stage scarify; after which use a mixture of rock, black, and common salts, with nitre and honey. Errhines should also be used, the food prepared with ghee, and a mixture of honey and long-pepper kept in the mouth.

Another disease is produced by deranged blood, and is characterised by a discharge of pus mixed with blood. In this disease the teeth become loose; and after scarifications, gargles should be

used. Another disorder is characterised by a painful swelling of the gums, which are itchy, and are accompanied with a copious discharge of saliva. This disease is caused by a derangement of phlegm, and blood. After being scarified apply a mixture made of the bark of *lodhra*, (symplocos racemosa,) *mustá*, (cyperus rotundus,) and *rasanjana*, (sulphurate of antimony,) with honey. Other astringent barks may also be used in the form of decoction.

A variety of disease is produced by the derangement of wind, bile and phlegm, in which the teeth become loose, with severe pain about the palate. Matter is formed in the gums, and the inside of the mouth is inflamed. This form is to be treated as the last; but is considered incurable.

Another is produced by derangement of bile, blood and phlegm; and is characterised by blood being discharged from the gums; which are flabby, and separate from the teeth. One variety is produced by derangement of bile and blood, in which abscesses form in the gums with little pain; the teeth become loose, and when the gums are touched, they bleed. There is fætor of the mouth, and after the discharge of blood from the gums, they again swell. In the treatment use purga-

tives, emetics, and errhines. Scarify the part by rubbing the rough border of the fig-leaf, or other such leaves over the part diseased. Then mix the powder of long and black pepper, ginger, the five salts, and honey together, and apply it to the part. As a wash use the powder of long-pepper, mustard, dry ginger, with tepid water; and prepared ghee, with sweet and astringent medicines as a detergent.

One form of disease is caused by external injury, as by cleaning the teeth with too hard a tooth-brush. In this disease the teeth become loose, and the gums swell. Any sloughing parts are to be removed with the knife, and use caustic potash; after which the antiphlogistic form of treatment is to be followed, accompanied with cold applications.

When the wind is deranged it produces irregularity in the growth of the teeth, with much pain. Such teeth should be extracted, the actual cautery applied, and then treat it as of a caries of the tooth.

When there is swelling round the wisdom-teeth, with much pain and the discharge of saliva, it is produced by deranged phlegm. In this case scarify the swollen part, then apply powdered impure soda, nitre, &c., mixed with honey, to the

part. The powder of long-pepper mixed with honey may be applied, and the wash of astringent and bitter decoctions used frequently.

Susruta also states that there are five different fistulas connected with the gums, which are to be treated in the usual way, by scarifying the fistulous openings, and then using astringent and bitter gargles. The actual and potential cauteries may also be applied. Should such fistulæ be neglected they will extend to the bone, when the teeth should be extracted, and the part treated as a fractured bone. If on removing the last molar tooth there occurs much hemorrhage, pain, and paralysis of part of the face, it proves that the tooth should not have been extracted.

7. *Diseases of the Teeth.* Toothache is caused by the derangement of wind. When there is a small black decayed part of the tooth which is painful, and discharges matter, with neighbouring swelling, and terminates in fistula, with much pain, it is called *krimidantaka*, or worm-eaten tooth. The treatment of this disease should consist in stimulating applications, and oleaginous mixtures. After the above medicine the actual cautery may be applied if necessary to the diseased part. When the mouth is turned to a side, and the tooth fractured, as occurs during spasms,

it is produced by phlegm, and it should be extracted.

When the teeth are sensitive, the person cannot bear cold or hot applications, and cool air and sour articles produce pain, it is from diseased bile and wind. For curing it, apply hot ghee and a decoction of medicines for diseased bile, with the application of the usual fumigations. The food should be animal broths, milk, ghee, and different preparations of rice, with oil to the head. When the teeth are dirty, and phlegm and wind are diseased, dried up, and deformed like the scale of a fish, or a piece of broken pot; remove the tartar, and apply powdered stick-lac with honey. This tartar increases, and the teeth become loose, and eventually drop out. It is cured with difficulty, by following the same treatment as in the other varieties. When bile and blood are deranged, the teeth become of a dark colour, as if burnt in the fire, for which extraction is the only remedy.

Wind, when deranged, may produce dislocation of the lower jaw, and the symptoms and treatment are the same as in the other forms of the disease. The following articles of food are to be avoided in diseases of the teeth: acid fruits, cold or hot water, dry and hard food, cleaning the teeth with

a hard piece of prepared wood, and not the soft green branch of a tree, as usually employed.

8. *Diseases of the Tongue.* When wind is deranged in the tongue, the person has no sense of feeling or taste in the organ, which is rough, divided into fissures, and becomes of a green colour. This form should be treated like the disease of the lip, produced by diseased wind. *Bile.* In this variety there is great heat, with long and red papillæ spread over its surface. The part is to be rubbed to discharge blood, and when the bad blood has been removed, sweet applications are to be used, with collyria and washes for the mouth. When *phlegm* is deranged, the tongue becomes heavy, thick, and the papillæ over the surface of the tongue enlarge, and appear like thorns.

The *treatment* should consist in rubbing the tongue with the rough leaves of certain trees, or by scarifications, and then applying to the part the powder of long and black pepper, with honey. Water, in which the powder of mustard seed and salt have been mixed, is to be used for cleaning the mouth.

The form produced by deranged phlegm and blood is characterised by swelling of the upper surface of the tongue, particularly near its root; and the tongue cannot be moved, and sometimes abscesses form.

Diseased phlegm and blood under the tongue is like a second tongue, with a profuse discharge of saliva, accompanied with itchiness and burning pain. In this disease the tongue is to be rubbed with rough leaves to discharge the bad blood, followed by the application of caustics, long-pepper, &c., mixed with honey. The powder of yellow mustard-seed and white salt are to be boiled in water, and used as a wash for the mouth. Errhines and fumigations will also be of use in this disease.

9. *Diseases of the Palate.* 1. When the phlegm and blood are deranged in the soft palate or tonsils, they become large, like a full bladder, accompanied with thirst, cough, and difficulty of breathing. When troublesome, they are to be seized between the blades of a forceps and drawn forward; and with a semi-circular knife the third of the swelled part is to be removed. If all be removed, so much blood may be discharged as will destroy the individual. If too little is removed, it will produce an increase in the swelling, with fainting; and a red secretion from its surface with sleepiness, an indistinctness of sight, swimming of the head, &c. After the operation, the part is to be rubbed with powdered black and long pepper, dry ginger, and rock salt; the infusion of several astringent herbs may likewise be used as

a gargle. 2. In other cases, the swelling is accompanied with much pain and heat; and suppuration is produced by phlegm and blood. 3. When the part is much swollen, hard, of a red colour, and is produced by diseased blood; it is accompanied with fever and severe pain. When the swelling is the shape of a turtle, without pain, and increases slowly, it is caused by diseased phlegm. 4. Sometimes the swelling is like a water-lily, in the soft palate, and is produced by a disease of the blood. 5. When there is no pain in the swelled palate, it is produced by phlegm. 6. When swelled like a plum, without pain, and remains in one spot, it is produced by phlegm mixed with fat. 7. When caused by deranged bile, it is characterised by suppuration in the soft palate. 8. In another form the palate is very dry, and it is accompanied with difficulty in breathing, and much pain. These six last diseases are to be treated by the use of the same medicines as the first. Fumigations are used for two days in the disease produced by deranged phlegm. The operations to be performed in the different forms of the swelling vary according to their nature. Sometimes a part of the diseased part is excised, others require to be opened, others scarified, &c. The diet in all these forms of disease should be milk, and cigars are

used of those aromatic substances which are best suited to the nature of the disease, and smoked by the patient.

Order 6. *Diseases of the Neck* consist of: Diseases of the throat, Hoarseness, Goitre, Scrofulous swellings, and Tumours of the neck.

1. *Throat.* The five forms of diseases of the throat are when wind, bile, and phlegm are deranged in the throat separately or combined, or when the blood and the muscles are diseased. They produce a swelling in the throat, which shuts up the wind-pipe, and produces sudden death. In such cases the treatment is to bleed the patient generally and locally; give an emetic, apply fumigations, and use gargles and errhines.

When the wind is deranged in the severe forms, all the symptoms of deranged wind are produced; when the root of the tongue becomes very painful, the swelling hard, and shuts the wind-pipe. In treating this disease, after the local discharge of blood, apply rock-salt over the wounds, and warm ghee; fat and marrow warmed are used as a gargle, and retained in the mouth. This is to be repeated frequently.

Bile. In this form the papillæ of flesh quickly enlarge, become hot, and ripen, with severe fever. After bleeding, sugar, red sandal-wood, and honey

are to be applied to the part, with a decoction of grapes and *parusaka*, a parasite plant.

Phlegm, when diseased in the throat, its passage is closed, the swelling remains long and slowly suppurates, and fleshy elevations are formed. After bleeding, soot, mixed with hot articles, as long and black pepper, &c., is to be applied to the part. As a gargle, take a quarter seer of oil, prepared with sweet aparajita cletoria, Arabian jasmine, croton polyandrum, sairdhaba, rock salt, of each, one tollah; water, one seer. Boil until the water is evaporated, when it is fit for use as a gargle.

When wind, bile, and phlegm are deranged at the same time, the swelling suppurates to a great depth in the tongue. It is incurable, and the three forms of symptoms of diseased wind, bile, and phlegm appear. The treatment is the same as for the separate forms. When blood is deranged, many small swellings of a red colour, form upon the tongue, and near its root, accompanied with symptoms of deranged bile. This variety may be cured.

When a hard and rough swelling like a plum-stone is situated in the throat, and produces difficulty in breathing, it is caused by phlegm; when scarifications are to be made over the

swelling. A swelling at the root of the tongue, of a red colour, like a second tongue, is probably a swelling of the epiglottis, and is produced by the phlegm and blood. When it suppurates it is incurable. Various other swellings of the throat are mentioned, which prevents swallowing, and are produced by phlegm. Wind and phlegm produce the swelling in the throat, which is accompanied with severe lancinating pain, and difficulty in breathing. Diseased phlegm and blood produce a swelling in the throat accompanied with itchiness, and a burning sensation. It is soft, heavy, and does not suppurate. In this form scarifications are to be made, and astringent gargles are to be used. When accompanied with fever, it is incurable.

A swelling of the throat, causing difficulty in breathing, and surrounded by small papillæ, like piles, with severe pain, is produced by wind, bile, and phlegm.

The swelling sometimes is like the stone of a plum, not painful, but hard; and is produced by diseased phlegm and blood, and must be removed by the knife.

When phlegm stops the passage of air, it produces dryness of the throat, hoarseness, difficulty in breathing, and great uneasiness. This

is the croup, which is not frequent in Hindostan, and more chronic and less dangerous than in Europe.

A swelling in the throat which produces suffocation, and is accompanied with great pain, redness, followed by sloughing is an incurable disease.

A large red swelling extending over the throat with great pain, and high fever, in which the patient cannot swallow food nor drink water. It is called *Galoagha*, and is produced by phlegm and blood stopping the passage of the air, and is considered incurable. If general, this form of disease is produced by bile, and should be treated by the antiphlogistic treatment; and those by phlegm, by astringent and hot applications. When produced by wind the applications should be of ghee, oil, and other medicines for the cure of wind.

2. *Hoarseness.* The causes of this disease are loud speaking or reading, poison, external injuries, exposure to cold, &c. When wind, bile, and phlegm are deranged in the air-passages they produce the six varieties of hoarseness. One is produced by derangements of the wind, bile, or phlegm; by the combination of the three; by fatness; and by weakness.

1st. *Wind*, when deranged, produces this disease, when the person's eyes, mouth, urine, and dejections become dark-coloured, and his tone of speaking is slow and rough, like an ass braying.

2nd. When *bile* is deranged, the eyes, mouth, urine, and dejections are of a yellowish colour, and the patient speaks from the throat, with a sense of burning pain in the part.

3rd. The throat is filled with mucus when *phlegm* is deranged, and the person speaks little, and that slowly and with difficulty, particularly at night. When the three are deranged, the combined symptoms of the three varieties are present; and the patient speaks so indistinctly that he cannot be understood. This form is incurable.

4th. When weakness or diminution of the essential parts produce the disease, the patient cannot speak, and when he tries, vapour appears to proceed from the mouth, with pain; it is incurable.

5th. When it is produced by *fatness*, the person's speech is indistinct, and he thinks his throat and palate are covered with something. Such a disease will not be cured when the person is weak, old, and thin; when it has been of long continuance, and is congenital. In fat people it is incurable.

In treating this disease the body is first to be

anointed with oil, and the bowels cleared by emetics, purgatives, and enemas. This is to be followed by the application of different kinds of errhines, gargles, and fumigations to the throat. When these remedies have been used without the desired effect, the medicines recommended for asthma and cough are to be tried. When wind is deranged, the patient should take ghee after dinner. The ghee is to be mixed with a decoction of different remedies, but varying them according to the humour affected.

For diet he should use milk, rice, and molasses, with ghee; rice, milk, and powdered liquorice-root with ghee; and other expectorant and heating substances, with cow's urine.

3. *Goitre.* The swelling of the throat, whether it be small or large, is called by this name. It is of an oblong form like the scrotum. It is produced when wind and phlegm are diseased in the throat; and diseased fat slowly produces it.

When *wind* is diseased there is pain in the throat, and black veins spread over it. The swelling is of a green or red colour, dull and irregular. This form increases slowly, and rarely suppurates; but, when it does, it is without any apparent cause. The person has a bad taste in his mouth, with dryness of the palate and throat.

Phlegm. In this variety the swelling is hard, fixed, cold, and of the natural colour. It increases slowly, is heavy, itchy, and large, and sometimes suppurates. The taste in the mouth is sweetish, and the palate and throat is as if covered with matter.

When produced by diseased *fat* it is slow in its increase, suppurates with little pain, and is of the shape of a pumpkin with a small root. The swelling increases and diminishes with changes in the size of the body; and the face is shining, as if anointed. The swelling is heavy, of a yellowish colour, and has a bad smell. It is sometimes itchy and painful, accompanied with a peculiar change in the voice. The unfavourable symptoms are difficulty in breathing, softness in the part, and after it has continued for a year, it is accompanied with dyspepsia and hoarseness. When the person is thin and weak he will die.

Treatment. Foment the parts with steam, by means of a tube proceeding from a vessel, in which those vegetable remedies are boiled which cure diseased wind. When wind is particularly deranged, the steam of warm milk is used; and warm poultices prepared with flesh and oil are applied to the swelling, and an opening made into it. It is then treated like a common inflamma-

tion. Different other external applications are recommended, and long-pepper is used internally. When produced by phlegm, fomentations are to be applied; the swelling is opened, and oil, prepared with different salts, and with the ashes of long-pepper, and other heating medicines are to be exhibited internally. Use also an external paste made of the flowers of *gunyar* with the water of the ashes of *palása*, and apply it to the part hot.

Employ for food, barley, a decoction of *mudga* with cow's urine, or with powdered long and black-pepper, ginger, and honey.

When caused by fat, a paste made of different medicines is recommended, with the gum resin of the *sál* tree, with cow's urine, daily: or make an incision, remove the fat, and sew up the wound; then apply ghee and honey to the part, or hot oil. The patient is to live on a preparation of barley, and a tight bandage is to be applied to the part. The decoction of the three kinds of myrobalan is also recommended

4. *Scrofulous swellings.* When many small tumors like plums appear in the axilla, neck, back, and groins, they are produced by diseased fat, and phlegm. They suppurate slowly, and continue to appear and suppurate for a long period. When not attended by any bad constitutional disease it

is curable, but when accompanied with Coryza, pain in the sides, cough, fever, and vomiting, it is incurable.

When the swellings are indolent and recent, follow the same treatment as in local inflammation; support the patient's strength with prepared ghee, fat, and sheep's marrow, and a decoction of vegetable drugs, for the local application. Different fomentations, fumigations, and poultices are applied, and when the tumours suppurate, open and discharge the matter; wash the wound with a decoction of ægle marmelos, calotropis gigantea, and pentaptera arjuna. A poultice made of *tila*, and the leaves of the castor-oil plant is mixed with salt, and applied to the part. Then apply oil which had been prepared with a decoction of mimosa octandra, and pinus longifolia.

When the disease is produced by bile, apply leeches, with milk and water, and other cold applications. Aperients are likewise to be given. When it suppurates, open and wash with a decoction of astringent barks. Then apply a poultice, and ghee prepared with liquorice and other sweet medicines.

5. *Tumors in the Neck, (Manskunder Ganthia)* is a variety of the *Gandamala* or scrofulous swellings. They are hard and large, and when they

suppurate they should be opened. After which the cavity is to be cleaned with astringent washes. Detergent medicines are also used, as honey, ghee, and caustic preparations.

When the tumors are produced by fat, apply a paste made of sesamum seed. Then two folds of cloth are placed over the part, and a hot iron is to be applied frequently over the swelling. If the tumor is not removed in this way, the knife must be had recourse to. In this and all other scrofulous affections, emetics and purgatives are to be occasionally exhibited, Errhines are also of use. The actual cautery is to be applied several times across the arm immediately above the wrist, leaving an interval of the breadth of a finger between each application.

CLASS V.

DISEASES OF THE CHEST.

In this class is considered asthma, cough, pneumonia, phthisis pulmonalis, hiccough, and diseases of the heart.

1*st. Asthma (Swasa)* is supposed to be produced by the active principle of the chest, *pran-veyu*, changing its natural position, and being confined in

its passage, produces the distress and difficulty of breathing. There are five varieties of asthma: 1. One variety is ushered in with pain in the temples, chest and sides, with loss of appetite, restlessness, tightness of the abdomen, a bad taste in the mouth, and a constipation of the bowels and bladder. When the wind is confined in the air passages by the phlegm, it produces this disease. The patient respires with difficulty, and with a noise like that of a wild bullock; he becomes low-spirited, his eyes are always moving about, his mouth open, he speaks with difficulty, and his distress may be observed from a distance.

2. The patient in this form respires with difficulty and with an effort; the air passages being closed by phlegm, and the air trying to escape gives much pain. His eyes are directed upwards, he cannot see, and objects appear before the eyes; sometimes he faints, his mouth remains dry, with restlessness and severe pain over the body. The respiration becomes more difficult, and he dies.

3. This form occurs in fits at irregular intervals, with fainting. In these cases, he is sometimes still, and cannot breathe. The vital parts are much affected, and very painful. He is constipated in his bowels, with much perspiration and drowsiness. He complains of much pain in

the bladder, which is very hot, his eyes are always watering, rolling about, and red; great debility, low spirits, mouth dry, bad colour of the skin, and delirium. Such persons quickly die.

4. In this variety, the inspiration is easy, but expiration is difficult. The vessels of the neck and air passages are affected, with a collection of mucus in the air passages. Catarrh is produced, as indicated by yellow sputa from the mouth, and snoring, with great uneasiness and difficulty in breathing. When he coughs he often faints, but on mucus being discharged, he feels easier. At times he cannot speak, does not sleep, and when he does, he complains of much pain in the sides and chest. He is easiest in the sitting posture, and likes hot things. His eyes are turned upwards, he perspires much in the forehead, his mouth is dry, and the body swings about as if he was riding upon an elephant. From time to time his breathing is difficult. This complaint is increased in cloudy, rainy, and cold weather; especially during the prevalence of easterly winds. Whatever increases phlegm is liable to increase the disease. This form of disease may be cured if recent, but when it has continued for some time, it is not curable. When combined with fever and dozing, it forms another variety of this

disease. If produced or increased by constipation, dyspepsia, or dust and darkness, the person sees imperfectly, and cold things give relief.

5. This variety is produced by dry food and exercise, in which there is less difficulty in breathing, and no pain or uneasiness. It neither prevents deglutition, nor the action of the senses, and only produces difficulty in breathing on running, &c. No other disease is produced by this one, and it is curable when the patient is strong; unless when combined with some other disease.

In asthma mild purgatives and emetics are to be given. Old ghee prepared with myrobalan, black salt, and asafœtida, with powder of long pepper is of use. Ghee prepared with the five salts, as rock, black, common salt, is also of use.

Acid fruits are recommended, with broths made of the flesh of birds which pick their food, as fowls, pigeons, &c. The heads of deer prepared with peas, and mixed with ghee are also used.

2nd. Cough, (Kasa.) This is an example of forming diseases, from classes of symptoms which properly belong to other diseases. By the ancient Hindus, cough is stated to be produced by smoke or dust entering the mouth and nostrils, by fighting, by great fatigue, by dry food, by articles of food entering the air passages, by sneezing, or by resist-

ing the calls of nature. These causes derange the vital air *(pran-bayu)* in the chest, and the *udan-bayu* which is situated in the trachea; by which the wind passing through the air passages to the mouth, produces a peculiar noise, like a broken metallic vessel. The disease may likewise be produced by wind, bile, and phlegm, by ruptures of the respiratory organs, or by the loss of particular humours. All these varieties of cough, pass to consumption if neglected. The disease commences with a feeling in the mouth and throat as if it contained some irritating substance. It feels itchy, or there is a stinging pain which prevents the passage of food into the stomach.

The symptoms of cough are caused by deranged wind, which changes the voice, producing the dry and frequent cough, which distresses the patient, with pain in the temples, head, stomach, and chest. The face becomes sallow, and the person weak.

When *bile* is deranged, the mouth is dry and bitter, and the breath is hot with fever; the person complains of thirst, and severe pain over the body; the expectoration is pungent, and of a yellowish colour, and the skin becomes yellow and hot, with pain in the chest.

When *phlegm* is deranged, the mouth is full of mucus, with headache, loss of appetite, languor,

frequent cough, with thick mucus expectoration. The person cannot labour, has frequent fits of coughing, the body is heavy, itchy, and weak, he has no appetite, the frequency of coughing increases, and much phlegm is expectorated.

It is caused by excessive fatigue, carrying heavy weights, travelling great distances when unaccustomed, and violent exercise upon horseback or elephants. By these causes the air passages are injured or ulcerated, when the patient is first affected with dry cough, followed by spitting of blood, much pain in the throat and chest, which is increased by pressure. The joints and other parts of the body are painful, as if pins were penetrating it, with pain in the muscles, fever, difficulty in breathing, thirst, hoarseness, and change in the voice, so that it resembles that of wild pigeons. When recent the disease may be cured; but, after having continued for one year, medicine may relieve, but cannot cure the disease.

3*rd*. *Pneumonia* (*?*) is produced by taking unwholesome food, at improper, or unusual times; excessive venery, and neglect of the calls of nature. In other cases the disease is produced by grief, by food which has a bad taste, or produces disgust, by which the internal heat is dimi-

nished and deranged, with the wind, bile, and phlegm. This disease is characterised by the person being affected with severe pain in the chest and emaciation of the body, fever, fainting, and a burning sensation of the body. His intellect becomes affected, and the person loses his strength. The cough is at first dry, is accompanied with vomiting, and is followed by purulent and bloody expectoration. When these symptoms are present they are rarely cured; and in weak persons the disease is generally fatal, unless when it is recent. In old age the cough will remain.

When the disease is recent, with the assistance of a good physician, and proper remedies, a cure may be obtained. When wind, bile, and phlegm produce these diseases separately it may be cured. When the cough is produced by deranged wind, it is first to be treated by oleaginous medicines, such as prepared ghee, glysters, different animal broths, milk, and fruit. Milk with sugar is also recommended. When the disease is severe, and is produced by *phlegm*, give first an emetic, with fried barley, and hot spices; such as long-pepper, saltpetre, and light and dry food, with stimulating medicines. Form this decoction in the usual manner, and use it occasionally.

4*th. Phthisis Pulmonalis, (Consumption.)* When

produced by grief; by the evacuations being retained, when nature endeavours to expel them; by great loss of the humours of the body; by performing unusual and unnatural actions, as ineffectually endeavouring to raise heavy weights; and by running, swimming, or other violent exercise. Consumption is also produced by eating bad food, or at unusual times, and in unusual quantities, by fasting, by boils and sores in the chest, and by old age; by diminishing the mental and bodily strength, by blunting the senses, by producing difficulty in breathing, by altering the voice, by producing vomiting with expectoration, and by a discharge from the eyes, nose, and mouth. In such cases the body dries, and the surface appears dirty.

When the wind, phlegm, and bile are deranged in this disease, the chyle vessels are stopped by the humours, but particularly phlegm, and the other parts of the body are not nourished. Another form is produced by excessive venery, by which all the other elements are deranged. The disease commences by the person becoming emaciated and debilitated; by difficult breathing and pain over the body, with cough, and a discharge of mucus from the mouth and nose. The palate is dry, vomiting, and loss of appetite take place,

from the internal heat being diminished. There is also derangement of the mind, jaundice, cough with expectoration, and the loss of taste, and smell. The patient sleeps continually, and the eyes become of a pearl white colour. The person is fond of animal food, and is desirous of intercourse with women. The following symptoms indicate the presence of this disease; when the patient's voice changes, he sees in his dreams birds and animals, and he supposes he is mounted upon them. He sees also, dry beds of rivers, dry trees, as if destroyed by storms, and by fire.

The characteristic symptoms of Consumption are pain in the shoulders and sides of the chest, with a burning feverish feeling in the palms of the hands and soles of the feet, which extends over the body. It is sometimes produced by derangements of one of the three humours. The symptoms produced by derangement of the wind are hoarseness, pain, particularly in the shoulders and sides of the chest, and a bent form of body. The symptoms of bile are fever, the body has a feeling of burning, with diarrhœa, and hœmoptysis. The symptoms of phlegm are a fulness and heaviness of the head, no appetite, cough, and the windpipe is painful as if bruised,

with a change in the voice. When all the above symptoms are present at the same time, and in the same person; or when there is cough, diarrhœa, pain of the chest and sides, hoarseness, loss of appetite, and fever, or when cough, asthma, and the discharge of blood is present, with emaciation, the person will die. When these bad symptoms are absent the physician may attend the person. When the person has a strong appetite, the food does not produce strength, flesh, but diarrhœa; or when the testicles or stomach swell, the person will not recover. When the person is strong, the disease recent, and he has slight fever; when he can work, has a good appetite, and follows the judicious instructions of the physician, such a person may recover.

When the eye is white, when there is no appetite, with much derangement in breathing; and when there is a free secretion of urine with pain, the person will not recover. Another form of consumption is produced by excessive grief, old age, great fatigue, by taking long journies on foot, by the debility produced by old ulcers, and by the rupture of the organs of respiration, by which the body will become weak, and the disease declare itself. It is likewise produced by excessive venery when the body becomes emaciated, and

debilitated, with pain in the scrotum and penis. The body becomes yellow, and the other humours are diminished.

When consumption is brought on by grief, the person complains of pain in the abdomen, numbness of the skin, with the other symptoms of the last form, but without the evacuation, and symptoms of deranged semen. When the disease is produced by old age, the body becomes very thin, the person cannot labour, his organs of sense and strength are diminished, his body shakes, he has no appetite, and his voice is like a broken pewter-plate when struck. In this case there is always a flow of saliva from the mouth, weakness and heaviness; and his eyes, nose and mouth discharge mucus. The dejections and surface of the body are in these patients dry and rough. When the body is thin from great fatigue, or walking, the person cannot get up, his body changes in colour, is painful, and some parts lose their sensibility; the palate, throat, and mouth are dry. When produced by other kinds of violent exercise, or by a rupture of the lungs, the symptoms are the same.

When old ulcers debilitate the body, by the great loss of blood, when there is much pain, and little nourishment in the food which is taken,

the disease is incurable. When consumption is produced by a rupture of the respiratory organs, as by the frequent use of the bow and arrow, by carrying great weights, when a weak person fights with a strong man, when jumping from a great height, or when a person attempts to run after and seize an ox, a horse, or pull at a bow, or throw heavy pieces of wood or stone, the disease is dangerous. In like manner, loud reading, walking quickly and to a great distance, or swimming much, frequent horse exercise, or running up a height, or to a great distance, dancing quickly, or other bad customs; eating very dry articles, or very little food, or only one kind of food, will produce the disease. When present, there is great pain in the breast, sides, as if it was wounded, and the body dries up and shakes. By degrees the spirit and strength fail, and the colour of the skin is diminished or unnatural, there is no appetite, with fever, pain, dejection of mind, diarrhœa, and loss of appetite. The sputa is of a light blue or yellow colour, with a bad smell, and unequal, like the knot of a piece of rope. At other times the sputa is mixed with blood. These symptoms increase daily, with pain in the chest, blood is vomited, and the cough becomes more severe. When

the body is much emaciated from the drying up of the juices, indicated by the parched dry mouth, &c., the urine has the colour of blood, and the sides, back, and thighs are painful. Consumption often occurs in the progress of other diseases, and is always accompanied with danger, being cured with much difficulty. When the internal heat is natural, and the symptoms not severe, and remain but a few days, the person will be cured. If it continues one year the cure will not be accomplished, and when the severe symptoms above enumerated are present the person will die.

When the appetite is good, and the person is not very thin, and is careful, the physician may treat him. Ghee is to be taken internally, which had been prepared with sweet and other nourishing medicines. This is to be followed by the use of mild purgatives and emetics. Enemas are also to be given, and errhines to clear the head. The diet should consist of prepared barley, flour, and rice, with animal broths. When his appetite is good give nourishing food, particularly the flesh of crows, owls, brahmany kites, rats, mongooses, wild cats, earth-worms, and animals that burrow under the earth. The bodies of these animals are to be cut into pieces, boiled in oil, and prepared as a broth, with salt and peas. Wine

made of grapes is to be given, with flesh of asses, mules, horses, camels, elephants, prepared in the usual way. The ghee of goats and sheep, with preparations of barley, are very useful, with a mixture of ghee, honey, and long and black-pepper. The carbonate of alumina mixed with honey and oil; or a mixture made by the powder of physalis flexuosa, sesamum orientale, and phaseolus radiatus, with ghee of goats and honey. Garlic, pepper, &c., are also given in gradually increased doses, and continued as alternative medicines. There are various mixtures recommended to nourish and give tone to the body, among which the adhatoda vasica *(bakus)* may be mentioned as a valuable remedy in coughs, bronchitis, and phthisis.

It is recommended to eat the flesh, dejections, and blood, live in the same house, and in the same room with goats. The patient should carefully avoid grief, anger, fatigue, and the other causes which produce the disease.

5*th. Hiccup.* As the spasmodic affection of the diaphragm often occurs in the course of dangerous diseases, it is always viewed with dread by the Hindu practitioners, and a great variety of receipts are given for its removal. It is produced by nearly the same causes as asthma, and cough;

such as heavy and indigestible food, or roasted, hot, and dry substances; too much, or an improper mixture of food, or articles that increase cough, &c., so as to produce constipation. In other cases very dry or cold food, or situations, exposure to dust, smoke entering the mouth or nostrils, or much heat, as exposure to the sun, and hot air; violent exercise, carrying heavy loads, walking great distances, not attending to the calls of nature, or long fasting produce this disease, which quickly debilitates, and destroys life.

There are five kinds of hiccup, in all of which wind and phlegm are deranged, each being distinguished by the cause, peculiarity, and degree of the characteristic indications. The unfavourable symptoms are when hiccup is accompanied with fixed eyes, as if drawn up by the hand; when there is great weakness, and the patient's arms and legs are thrown out, with frequent sneezing. When the person is very weak, and old, or becomes weak after excessive venery, with no appetite, and a cough, or when combined with other diseases, as delirium, fainting, great thirst, &c., it will soon be fatal. When the person is strong, has a good constitution, is not thin, with a good memory, healthy tissues and senses, he will recover.

Fear of all kinds cures it; and when a child is

attacked, he should be accused of having stolen something, or threatened to be beaten, or needles suddenly thrust into the skin, to produce a sudden surprise and excitement, which will cure the disease. Liquorice-root, mixed with honey, and taken in the nostrils as an errhine, or powdered long-pepper, with sugar and warm ghee, milk, and the juice of the sugar-cane will often cure the disease. If the person is not very weak, give him a purgative and emetic; and use fumigations, with gram, raisin, and other fragrant medicines. The ashes of the bones of animals, with honey, are also used for the same purpose; or the ashes of the feathers of peacocks, with honey and ghee. Impure soda with lemon juice also cures hiccup, and hot barley water with ghee gives relief. A decoction of myrobalan is of much use, as also a mixture of long-pepper, sugar, emblica myrobalan, and ginger with honey. The fried flesh of wild pigeons, and of different birds, porcupines, deer, formed into broths, with acid fruits and ghee, should be used. Purgatives, with salt or sugar, and glysters are also in some cases used with advantage.

6*th. Diseases of the Heart.* (*Ridraga*). Painful affections of the heart (angina pectoris?) are produced by the want of attention to the calls of

nature, the use of hot and dry food, the improper mixture of food, grief, loud singing, and accidents. In other cases the disease is produced by intemperance in eating, or unusual food, exhibited in too large quantities, which causes indigestion, and deranges the humours. When impure chyle is received into the heart, it produces this painful disease, of which there are five varieties. When produced from deranged wind, the patient feels various kinds of agitation and pain, sometimes lancinating, at other times as if the heart was cut or torn; and when caused by deranged bile there is much pain in the heart, with thirst, heart-burning, and dryness. This is succeeded by fainting, much sweating, dryness of the tongue, and smoke appears to come out of the mouth. When produced by phlegm the patient cannot speak freely, feels a heaviness of the heart, a discharge of mucus from the mouth and nose, loss of appetite, stupor, and a sweet taste in the mouth. The fifth variety is produced by worms, with lancinating or piercing pain in the region of the heart, sighing in the ears, dimness of sight, vertigo, nausea, vomiting, belching, and loss of appetite. The eyes become red, with emaciation of the body. All these diseases of the heart terminate in weakness, languor, loss of appetite and strength, with giddiness.

fever, emollient drinks are given, or a mixture of ghee and whey, with a decoction made of various mucilaginous and slightly stimulating drugs, as cyperus, pepper, cummin, ajwaen, &c.

The diseases of the abdomen are dyspepsia, constipation, cholera, dysentery, swelling of the abdomen, colic, worms, and retention of discharges.

Dyspepsia. This disease is divided into functional disease, (*agni mandya*) and that produced by improper food or indigestion, (*ajerna*).

1. *Functional Dyspepsia.* This disease is supposed to be produced by derangements of the internal fire. It has four varieties: When there is too little fire, the food is not digested, or only imperfectly, and the diseases of phlegm are present. When digestion is too strong, as when bile is deranged; when little, or even large quantities of food are digested, and diseases of bile follow. When the wind is deranged the food is sometimes digested, and sometimes not, from fire being sometimes in the natural state, and at other times deranged. In this case the diseases of wind are present. When pungent, sour, and dry food are taken for some time, phlegm is diminished, and wind is much increased; the internal fire, with the deranged wind, absorbs the liquid part of the body, and the food, when taken, is soon digested, and

the person is not satisfied. This disease is accompanied with great languor, thirst, dry cough, fainting, giddiness, burning of the body, and emaciation, with severe constipation, and much perspiration and fatigue.

When there is no increase or diminution of the wind, bile, and phlegm in the same person, the fire remains in the natural state. This is not a disease, but is the most favourable state of digestion, and is the condition in which food is properly digested, when not taken in too small, or too large quantities. The divisions of the digestive organs is into the stomach, in which the food is received, the duodenum, and the small intestines, by which the digested food is absorbed, and the indigestible part is carried away. This description is probably derived from the known structure of the intestines of the inferior animals.

Dyspepsia is produced by drinking much water, and eating at unusual hours, when very little food is taken, and the calls of nature resisted; or the person is sleepy, is in a passion, is afraid, grieved, or fatigued after eating; and when he dislikes the food during the time of eating. It is also produced when the person sleeps during the day, instead of at night, or is irregular in the time of sleeping, and when, at the usual time of dinner,

little is eaten. By such causes the food is not digested in the proper manner. When phlegm is deranged the food tastes sweet, and is not digested; when bile, the taste is sour, and the food in the stomach produces eructations; and wind when deranged causes the partially digested food to be dried up, with pain in the stomach.

Indigestion (*ajirna*). There are three varieties of this disease. When digestion is good, the food is properly prepared for the use of the body, the eructations are free and without taste, and the dejections are natural; the body is light and elastic, and the person is inclined to exertion, he has a good appetite and the food is tasty, and is accompanied with thirst. When digestion is imperfect the person's temper becomes irritable, he is subject to anger, is fearful, and becomes covetous. When indigestion has taken place, there is a disinclination to exertion, with giddiness; the body is heavy, the colour of the skin bad, and there is no passage of wind in the abdomen. Such a person does not like his food, his understanding is impaired, and his bowels are either constipated or there are copious dejections. The unfavourable symptoms of this disease are fainting, delirium, vomiting, a copious discharge of saliva from the mouth, with languor, and giddiness.

Disrelish for food, (arochaka). This disease is produced by derangement of wind, bile, and phlegm; or grief, fear, eating too much, or when not hungry, when exposed to bad smells, seeing disgusting objects, or anger. Each of these causes modify the disease. The usual symptoms are a sour taste in the mouth, clammy tongue, and an increased discharge of saliva. When caused by deranged wind there is an astringent taste in the mouth; when produced by deranged phlegm, the tongue feels clammy, is swollen and cold, with a sweet taste in the mouth, and the patient cannot eat hard substances.

In this disease the body feels heavy, with a flow of saliva and phlegm from the nose. The eyelids swell, and there are eructations of the substances eaten some time before, with diarrhœa.

If the disease is produced by grief, the symptoms will resemble those of deranged wind; if from anger, or eating too much food, the symptoms will be the same as those of diseased bile; and if produced by exposure to bad smells, or seeing disgusting objects, the symptoms are those of a combination of a derangement of the three humours. If the disease continues long, it produces other symptoms. The *wind* will produce pain in the chest and abdomen; *bile* a burning

When produced by derangements of the wind, the patient should first have his body anointed with oil, and take an oleaginous purgative, followed by an emetic of an infusion of acori calami, and melia agedaracta. He should next take the following mixture: powdered long-pepper, cardamums, acori calami, assafœtida, saltpetre, rock-salt, dry ginger, and carum caroe, with the juice of acid fruits and whey-wine or vinegar. Dose, a quarter of a tola twice-a-day. He should eat good rice, with the broth of wild animals properly prepared, and occasionally use oleaginous glysters, with smelling pavona.

When bile is deranged the patient should be treated as in bilious fever, and all the decoctions and mixtures recommended in that disease are to be used. When produced by deranged phlegm, give an emetic, with a decoction of nimb leaves and acori calami, with the mixture recommended above for derangements of the wind. He should also take a purgative of tribrit with ghee.

When produced by worms the patient should be anointed, and eat meats prepared with ghee and rice, or curds for three days; and then purgatives of salt, and a decoction of aromatic plants, and fermented rice should be taken. Afterwards take wine with powdered biranga. By this means the

worms will come out of the heart. He should next eat biranga powder, as an anthelmintic medicine, with barley for food.

CLASS VI.

DISEASES OF THE ABDOMEN. (*Udara.*)

The causes of all such complaints are supposed to be indigestion, accumulated excretions, or visceral obstructions. In such cases the belly swells with pain and heat, flatulence, uneasiness, and scanty evacuations. The superficial vessels become enlarged, with loss of appetite, great prostration of strength, languor, vertigo, and fainting; paleness of the lips and palate, and the person looks like a *preta* or ghost. Should the biliary humour be chiefly affected, the pain, heat, and fever are intense, and the skin is of a yellow tint. When the phlegmatic humours are chiefly vitiated, the pallor, and lassitude, and drowsiness are most marked.

The general treatment of visceral affections consists in the frequent administration of purgatives, as castor oil with the milk of the cow, the buffalo, or camel. When there is much pain, thirst, and

sensation over the body; and *phlegm* will cause rheumatic pains and loss of cheerfulness. When produced by bad smells, and seeing disgusting objects, it produces faintness and feverish heat, particularly in old and weak persons.

When caused by deranged wind it produces severe pain in the stomach, with flatulency. The stomach swells, with constipation, no wind escapes, and the person remains stupid, with impaired understanding, pain over the body, &c. When the bile is deranged, the person has sour eructations, a hot feeling in the throat, complains of thirst, is giddy, sometimes faints, and often dozes. He complains of pain with a sensation of burning in the abdomen, and a free perspiration over the body, which feels hot.

When there is want of digestion, although the individual thinks the appetite good and eats, still it does not nourish the body, but acts as a poison to the person. When the food is not taken in the usual quantities, digestion is not performed, and is often followed by disease. When a person eats like an animal, without consideration, he will be affected with indigestion, which is the cause of other diseases, as cholera, drum-belly, and constipation.

As indigestion, dyspepsia, and costiveness are

considered as only varieties of the same disease, the same plan of cure is followed.

In dyspepsia, myrobalan, dry ginger, and sugar are to be taken internally; rock-salt and myrobalan; dry ginger with sugar; the powder of long-pepper and myrobalan, or the juice of the pomegranate. In the morning, to clear the bowels, the patient should take the following mixture: mix equal parts of dry ginger, black and long-pepper, the seeds of *danti* (croton polyandrum), the root of *tribrit* (convolvulus turpethum), and the root of *chitra* (plumbago root, *rizia*), taken with a little sugar. This powder produces appetite and cures costiveness, pain, enlargement of the spleen, and jaundice.

In indigestion, the following mixture is recommended: Take of assafœtida, black pepper, long-pepper, and dry ginger, equal parts; make this into a paste with water, and rub it over the abdomen (*Charaka.*) The decoction of coriander seed and ginger is recommended, as also a mixture of powdered myrobalan, long-pepper, and rock-salt in whey.

In the variety of this disease from deranged phlegm, emetics are given; or the patient may take a diuretic, and then the infusion of coriander seeds with a little ginger. Fasting is recommended, and cold water for drink (*Susruta*).

In the bilious form of dyspepsia, warm applications are to be used externally to the abdomen; with a mixture of black and long-pepper, ginger, ligusticum ajwaen, rock-salt, cummin seed, nigella indica or sativa, and assafœtida, of each equal parts. Mix and reduce them to powder; dose two scruples. Small quantities of wine and honey mixed with water may also be administered.

In dyspepsia, should the patient have sour eructations, with heartburn, dried grapes, with myrobalan and honey, are given in the form of an electuary.

In *Bulimia* (*bhasmagni*) the treatment should consist in taking purgatives frequently followed by heavy, indigestible, and oily food; unleavened cakes of rice, ghee, and sugar; the flesh of amphibious animals, as the buffalo, tortoise, &c. Fish is also recommended, mutton prepared with cocoa-nuts, &c., barley with wax-flower and water, ghee and sugar; oily fruits, as walnuts, almonds, &c., so as to weaken the digestive powers, will cure the disease.

Order 2. *Constipation* (*Belambeka*) differs somewhat from drum-belly, as there is no swelling nor tightness of the abdomen; nor is the undigested food either rejected by vomiting or by stool;

but is retained in the abdomen causing much pain there, and likewise producing various diseases in different parts of the body. Constipation is always difficult to cure.

Drum-belly, (*alasaka*). The abdomen in this disease becomes enlarged and tight, with a rumbling noise, and the air passes upwards, followed by a retention of dejections and wind; with great thirst, eructations, and pain in the stomach.

Order 3. *Cholera* (*bisuche, silanga*). The person first feels pain in the abdomen, as from indigestion, followed by frequent stools and vomiting, great thirst, and spasms in the abdomen, fainting, giddiness, yawning, and cramps in the legs. The colour of the body is altered, accompanied with shivering, pain in the chest, and headache. The unfavourable symptoms of cholera are, the lips, teeth, and nails become blackish, and the person becomes insensible, with frequent vomiting. The eyes become sunken, voice feeble, and the joints loose, with great debility. Such a person may be taken out to be burnt, as he will not recover. The most fatal symptoms of cholera are, want of sleep, restlessness, shivering, no secretion of urine, and insensibility.

This is the same cholera which is so com-

mon and fatal in India, and now in Europe. It appeared in Asia as a sporadic disease, and in modern times has taken on that wide-spreading epidemic form, in so many different countries, since the year 1817.

The treatment of drum-belly, constipation, and cholera are nearly the same. In all it is to be commenced by exhibiting an emetic. In cholera it is recommended to apply the actual cautery to the inner side of each ankle joint; and hot external applications to the body. In all these cases fasting is enjoined, and after the emetic, medicines for correcting and soothing the pain in the stomach are to be used, followed by purgatives. When the faintness and purging has ceased, light easily digested food is to be given when hungry; such as conjee mixed with stomachics, &c., glysters, and purgatives.

For an internal medicine, *Susruta* recommends the following: take of myrobalan; *bacha*, (orris root); *hingu*, (assafœtida); *Indrajab*, (Wrightea antidysenterica seed); *gringha*, (small variety of garlic of a red colour); *sabardala*, (rock-salt), and *atibisha*, (atis or bitula). Mix the powder in warm water, and give it in small repeated doses.

Charaka added opium and black-pepper to the above mixture. The receipt is stated to cure

cholera when the eyes are sunk, the pulse imperceptible, and the extremities cold. For drink, take of Sinda salt eight ounces; butch, (acorus calamus W.) from two to four ounces, boiling water, twenty-four pints; when sufficiently cool, drink it as long as possible, or until the water is returned unchanged. The butch, like ginger, is a warm stomachic, promoting appetite, and giving tone to the system. The sagacity of the late Sir Archibald Galloway detected this receipt in an ancient Arabian MS., and brought it into general use in India, with great success. He left out the salt and ginger, which are of importance, and have been restored; and it forms the best internal remedy I know for the cure of cholera, particularly with the tournequets. I found from four to ten grains of calomel occasionally administered between the doses of the above medicine formed into pills, of use, when broken down and suspended in mucilage. The assafœtida pills are to be repeated according to the urgency of the symptoms, every quarter, half, or every hour, until the symptoms yield, and left off by degrees in quarter doses. They may thus be repeated twice, thrice, or four times if necessary. Mustard seed with sugar, or black salt is likewise recommended. Another remedy consists of *haindhaba*, (rock-salt,) *hingu*, (assa-

fœtida,) with acid fruits. These are to be mixed in water and taken two or three times a-day.

The treatment of cholera, however, must be varied, which may explain why so many different plans of cure have been recommended according to the prominent symptoms. The vomiting is checked by a decoction of orris-root and salt; and when there is much vomiting, it is to be restrained by exhibiting thirty-two *ratis* of the following medicines: *caranja*, (galedupa arborea, Roxb.); *nimba*, (melia azadirachta); *gluchi*, (minespermum glabrum); *arjuna*, (pentaptera Arjuna); *bacha*, (orris-root). Mix them in one pint of water; boil to a quarter. This medicine may be repeated if necessary. For cramps, take mustard oil, rock-salt, and *kusta*, (costus speciosus). Mix when warm, and rub the mixture into the parts affected.

Order 4. *Vomiting (chharddhi)*. Deranged wind, bile, and phlegm, produce this disease; it arises also when the three humours are deranged, or when the person takes too much fluid, or bad articles of food. When disgusting objects are seen, smelt, or eaten, it may produce vomiting. In other persons it is produced by eating food too fast, or at unusual times, and by great fatigue, grief, indigestion, and worms. The state of pregnancy likewise produces vomiting. Before this occurs,

the person complains of nausea, a cessation of belching, and a watery and saltish discharge from the mouth; he dislikes food, and becomes weak and unsteady in walking.

When produced by wind the vomiting is frothy and scanty, much pain is felt in the back, the sides of the abdomen, and umbilicus, chest, head, and throat, with hoarseness; there is great exhaustion, and vomiting occurs, with a loud noise, and dry astringent taste in the mouth. When *bile* produces vomiting, the person feels faint and thirsty, the mouth is dry, and the head, palate, and eyes hot. He sees indistinctly as if he was in darkness, his body turns round, and he vomits a bitter matter of a yellow, green, hot, or sour nature. When phlegm is the cause, the patient is heavy and dozes, his mouth is sweet, phlegm is discharged, thick, white, and copiously mixed with mucus, and a horripilation is felt over the body. The person has no appetite, and the fluid vomited is neither salt, sour, nor bitter, but is attended with pain. When wind, bile, and phlegm are deranged, all the above symptoms are present. When vomiting is produced by the sight of disagreeable objects, pregnancy, or worms, the humours will be deranged, and the varieties of the disease will be distinguished by their peculiar symptoms. When

produced by worms, there are frequent eructations and much pain, accompanied with the symptoms of those diseases of the chest which are produced by worms. The unfavourable symptoms are great debility, difficulty in breathing, cough, and thirst, and the matter vomited being mixed with blood and pus, or resembling the variegated colour of the peacock's tail. There are also frequent vomiting of fœtid matter, like the dejections, as in other dangerous diseases.

All the varieties of vomiting are produced by disorders of the stomach; and in the treatment, fasting is always enjoined. When vomiting is caused by indigestible matter in the stomach, emetics and purgatives are recommended. In all the varieties, light, dry, and agreeable food, if any, should be exhibited. Different decoctions are also used according to the derangement of the humours, as recommended in the treatment of fever. The juice of the lemon, mixed with the powder of long-pepper and honey, may be sucked in the mouth with advantage in vomiting. A decoction of barley with honey, or fried rice boiled in water, and made into conjee, is recommended. The paste of coriander seeds mixed with salt, and the juice of acid fruits will be of use: The pulp of prunes or myrobalan, with spices, will

also be of use; as well as all articles possessed of agreeable smells. The broth of wild animals, bitter mixtures, and different kinds of agreeable food are all useful in checking vomiting.

During pregnancy the woman should be supplied with those articles of food which she wishes to eat, as the want of them will hurt the fœtus, and will increase the tendency to sickness and vomiting.

Vomiting of Bile, Acidity of Stomach. Several very different diseases are arranged under this head, and affords an example of a class of symptoms being improperly used as the distinctive mark of a disease. This disorder is produced by improper mixtures of food, by bad water, or articles that derange the bile, which is collected and discharged, producing the disease. It is characterised by dyspepsia, languor, nausea, sour and bitter eructations. The body is heavy, with burning of the breast and throat; he has no appetite, is thirsty, and complains of syncope, and the head turns round. A dulness of the intellect may be observed, and the fæces are various in appearance, and hot. The internal heat and pain of body diminishes, and the person sometimes vomits green, yellow, and blue matter. Sometimes it is like blood, and is very sour; sometimes it is like phlegm, or the washings of flesh, or has a muci-

laginous appearance. In other cases jaundice is produced, with free perspiration, and the body is of a yellow colour. When phlegm and bile are diseased, the abdomen is very hot when anything is eaten; and if nothing is taken, the vomited matter and eructations are bitter and sour. The neck, chest, and sides are hot; there is headache, and the hands and feet are burning. The person has a disgust for food, and is feverish, and itchy eruptions and patches appear over the body.

If this disease be recent, it may be cured with difficulty; and if old, it will often be incurable. There are three forms of the disease: when wind or phlegm are disordered, and when both are deranged.

When *wind* is diseased the person speaks foolishly; he is affected with syncope, and his body is languid, with slight uneasiness and pain. The room he is in appears dark; in other cases he is still, is very forgetful, and complains of severe pain over the body. *Phlegm.* In this form phlegm is always discharged from the mouth, the body feels heavy and cold, and the person is languid, has no appetite, and is lazy and vomits.

The surface of the body feels as if it was rubbed with something; it is itchy, the patient loses his appetite, and he takes much sleep. When wind

and phlegm are deranged in one place, the symptoms of the two forms of disease are present.

Treatment. In this disease emetics are first to be used, followed by laxatives. When the patient has vomited, and has been purged, anoint his body with oil, and exhibit enemas. His food should be taken with bitter substances, but without any heating mixture. He should eat a preparation of barley and flour, and the powder of fried rice, with honey and milk. He should likewise take a decoction of the *patal* leaves, ginger, and coriander seeds, when much itching pain, and indigestion is present. When there is much fever and vomiting, accompanied with pain, take a decoction of the *patal* leaves, with dry ginger, myrobalan, katuke, and gulancha. Tonics are also of great use, with carminatives

Dysentery (atisar). This disease is either acute or chronic, and is produced by a variety of causes; as exposure to cold, eating very heavy articles of food, such as flesh and maskali, &c., in considerable quantities; eating much ghee and oily or hot substances, or very thin or dry articles of food; eating several articles of food with contrary qualities, such as milk and fish, &c., or any kind of indigestible food. In other cases it is produced by the food not being properly boiled

or mixed, or being eaten at improper times; or by not being taken properly seasoned, or in unusually small or large quantities. In some cases the disease is by the suppression of the natural evacuations, by poisons, strong emetics and enemas; by drinking large quantities of water when fatigued, or unwholesome water; by great fear or grief; by much wine, or by peculiar food which affects certain persons; and by irregular or sudden changes in the seasons. Remaining long in the water while bathing, worms, deranged or constipated alvine, or other excretions, sometimes produce the disease. The symptoms are explained by the internal fire being diminished by morbid watery secretions, such as chyle, stools, urine, perspiration, fat, bile, blood, or by phlegm being generated in the intestines; this is mixed with the fæces, and is carried off downwards by the wind of the part. Hence the production of watery stools, &c. In some cases the fever occurs first from the derangement of wind, bile, and phlegm; in other cases the dysentery precedes the fever, and sometimes both occur together. In these cases abstinence from eating and drinking is to be observed, and such medicines are to be given that prepare the food that is in the abdomen. If dysentery be present, such medicines are to be used as will dry up and

stop this discharge, and the physician is to decide in each case which sorts of remedies are to be exhibited, and whether they should be directly given to cure first the fever or the diarrhœa.

There are six varieties of this disease, as it may be caused by the wind, bile, or phlegm separately deranged, by all the three deranged together, by grief, or by mucus in the abdomen. Dhanwantaree says, there are other varieties, as the symptoms vary from time to time.

Before this disease developes itself, a sharp pain is felt in the chest, umbilicus, and anus, and in the abdomen under the false ribs, which is succeeded by want of appetite, languor, and lassitude of the body; no wind is passed by the anus, the patient is costive, the abdomen is swollen, and everything taken remains undigested. When wind produces the disease, it commences with great pain; the dejections are of a yellow colour, frothy, dry, and frequent, and in small quantities, mixed with the undigested substances which have been eaten; pain is felt in the anus on the expulsion of wind, and the urine is scanty.

2. When bile is deranged, the dejections are expelled with an effort. They have a bad smell, are hot, and of a yellowish red colour, like the water in which flesh has been steeped. In other

cases, they are of a blue or red colour, and are accompanied with thirst, fainting, heat of body, free perspirations, and tenesmus at the time of the evacuation. There is often in such cases inflammation of the rectum, with high fever.

3. When phlegm is deranged, the person dozes, the dejections are white, thick, and constipated, mixed with phlegm. He has no appetite, complains of languor and lassitude, with dozing, frequent rigors, and calls to stool, which are passed without any noise, like water in which hog's flesh had been steeped.

4. When the above three humours are deranged, the dejections are of different colours. The patient is very thirsty, with languor, dejection of mind, and drowsiness. This kind of dysentery is fatal when children and old people are attacked; and in all cases it is difficult to cure, and will cause much vexation to the physician. The symptoms will vary according as one or other of the above forms predominates. The cause of the disease will likewise vary the symptoms.

5. When grief produces dysentery, the person has the internal fire of *pakasia* deranged by the watery vapours of the nose, eyes, and throat, which are formed by grief, and pass into *pakasia*, mix with the fire, and derange the bright blood

of the part. This blood is mixed with the dejections, often becomes putrid, and is expelled with them. In other cases it is discharged by itself. Sometimes it has a bad smell, in other patients it has not. The cure is tedious, and the physicians are vexed by its obstinacy. If the dejections are frequent, the cure will be very difficult.

6. The sixth form is produced by mucus, which deranges the stomach, and is discharged frequently of various colours.

There are also two forms of dysentery, one being acute (*áma*) or crude, and the other chronic or mature.

Acute Dysentery (*apaka*) is produced by improper food, which increases the wind, carries down the phlegm, produces scanty fœtid stools, which sink in water, and are discharged with straining. The patient feels feverish, with loss of appetite. The increased bile produces a burning sensation over the body, and the bile mixes with the blood, producing bloody stools, when the disease is called *raktaprahahika*. In the chronic or *paka* variety, opposite symptoms to the above are most prominent, and the abdomen does not feel heavy.

The unfavourable symptoms of dysentery, are a stiffness of the body, and dejections of a dark bluish

colour, like the ripe black-berry ; in other cases the colour of the dejections is like that of lime, ghee, or oil, of lumps of flesh, tallow or marrow; in other cases they are like milk or curds, like water in which flesh had been washed, or black, blue, and yellow, like these three colours mixed together in different proportions; or like the water of madar, or of the colour of peacock's feathers, or of the rainbow. In other cases they are very thin, of a fœtid smell, and cold; or dry and hot. Sometimes they are consistent, or like the brain, or like the refuse of well washed and beaten bark (fibrous), or its decoction, and are evacuated in large quantities. When the sick person is thirsty and hot, breathes through the nose, has hiccough, and pain in the side, and in the skin, with loss of sense and of memory, dozing and stupor, the disease will be fatal. Such a person has no inclination to do anything, and remains stupid, and complains of pain in the anus, like that of a ripe boil. He speaks incoherently, and becomes insensible, with an involuntary discharge from the anus; such a person will not live. When the patient is very much reduced in flesh, has involuntary discharges from the bowels, is cold, and has the abdomen distended, with pain in the anus; he should not be attended by the practitioner, as the disease is incurable.

The physician should be able to distinguish the symptoms of acute, from those of chronic dysentery, or he will not be able to treat the disease properly.

In the acute form the person should abstain from food, and very light medicines should be administered to improve the dejections. If there is much pain and flatulency, he should take an emetic of salt, long-pepper, and hot water. After vomiting, very light food, of a farinaceous kind, is to be given. The physician should be careful in the acute stage not to stop the stools by astringents or the like, as it will produce *gulma*, anasarca, dyspepsia, piles, and drum-belly. When the stools are frequent, and very scanty, he may take myrobalan, long-pepper, of each a quarter-tola, warm water, half-a-pint, and repeat this until a purgative effect is produced. If the watery stools are copious, emetics, and the following medicines are to be administered. Numerous receipts are given in the Hindu MSS. A specimen of these will only be given. Take equal parts of myrobalan, atis or batula, assafœtida, rock-salt, and orris root: powder and mix; dose, half-a-tola or more, according to the age of the patient, in a little hot water, wine, or conjee.

When deranged bile produces this disease, heat-

ing and stimulating medicines are not to be given, but he should take conjee, and agreeable bitter medicines. After some days of fasting, when he has some appetite, bitters are given. In cases of bloody flux, boiled rice is given for food without water. In this manner the acrimony of the diseased fluids are supposed to be neutralised by the dry rice.

When the symptoms yield to these remedies, the urine increases, and is discharged without the passage of fæces, which are evacuated freely, naturally, and without pain. The appetite is restored, and when there is no uneasiness in the abdomen, the person will recover. When there is swelling of the hands, feet, and joints, without any secretion of urine, and the dejections are very hot, the disease is increasing in violence.

In the chronic state *(pakatisar)*, when the stools are frequent, astringent medicines are to be given. When there is much pain, with costiveness, and blood is passed with mucus, give boiled milk in small quantities, with oily purgatives, and enemas of demulcent medicines with nourishing broths.

8. *Diarrhœa (grihini)*. This disease may come on after dysentery, when the internal fire is in a weak state, and the patient indulges himself in

unwholesome food; or it may be caused by derangements in wind, bile, or phlegm, or of these three humours collectively. By the use of improper food the internal fire is weakened, which deranges the place where it is situated, between the stomach and site of the chyle. When anything is eaten, which is not properly digested, causing a looseness, sometimes liquid, at other times more consistent, with or without wind or pain, and more or less fœtid, produces this disease. Before it commences the patient complains of lassitude and weakness of the body, accompanied with noise in the intestines, sour and bitter eructations, and a bad taste in the mouth. When there is a singing in the ears, œdema in the hands and feet, with pain in the joints, vomiting, fever, thirst, loss of appetite, a heaviness and burning sensation of the body occurs, and when of long continuance, the prognosis should be guarded. These symptoms are varied when either the wind, bile, or phlegm, or their peculiar symptoms are present.

In the treatment of the different varieties of diarrhœa the food should be light, and of a farinaceous nature; the bowels emptied by an aperient stomachic; and astringent remedies are then to be taken, with wine in the morning, and butter-

milk. Assafœtida, and other stomachic remedies, as ginger, are also useful. The fever and other diseases which sometimes accompany it, are to be treated in the usual manner.

A fifth variety of diarrhœa is produced by wind and mucus, in which there is much noise in the stomach, accompanied with laziness, weakness and lassitude. The stools are unnatural, irregular, and evacuated with noise; sometimes they are thin and slimy, and in other cases they are consistent or hard, and of a pale colour like indigested food. Some people remain ten or fifteen days, or even one month, without any fæcal discharge; other patients feel well during the day, but have frequent dejections during the night. The prognosis of this form of disease is unfavourable, as it is obstinate and is cured with difficulty.

The Bilva bivalvu, *(Ægle marmilos Rox,)* or *Bael*, is employed in chronic dysentery, diarrhœa, and dyspepsia, with the best effects. The bark of the roots and leaves is administered in the form of decoction as a tonic, and the unripe fruit as an astringent. The ripe fruit is much employed as an astringent and tonic, with an aperient effect; it has a fragrant smell, and pleasant taste. Susruta states that it is warm to the stomach, and sometimes gripes when unripe. The ripe fruit is heating

to the stomach, and is consequently indigestible, causes loss of appetite, and sometimes flatulency; as it increases expectoration and the flow of bile. These conclusions are derived from theoretical fancies, and may have been added by some modern Brahmin.

Swelling in the Abdomen, (Udara Gulma.) Under this head very different diseases are arranged, such as diseases of the pyloris, liver, spleen, ovaries, intestines, &c. These differences are supposed to be produced by the essential part which is more particularly affected; and each not being particularised, has caused an obscurity in the description. This is to be regretted, as the Hindus show an accurate knowledge of the contents of the abdomen, and believe the blood is prepared in the spleen. Three of these swellings may be fixed or moveable, and five are distinguished by their situation. One is produced by deranged wind, another by bile, and a third by phlegm. The derangement of the three fluids produce the fourth; the fifth is accompanied with an enlargement of the spleen or liver; the sixth is formed of concretions; the seventh is accidental; and the eighth is ascites.

The derangements of the wind, bile, and phlegm are produced by eating dry bad food in too large

quantities, or at irregular times; or by improper exercise, by neglecting the calls of nature, and by the improper administration of medicines. One swelling is situated on each side of the abdomen; one in the umbilicus; another in the pelvis; and one in the scrobiculus cordis, from deranged wind, bile, and phlegm. One of these swellings is peculiar to females, from the retention of the menses.

These swellings are ushered in by symptoms of indigestion, with fulness of the body, flatulence, want of appetite, and pain in the intestines; and are accompanied with languor, a sense of weakness, and an unhealthy colour of the skin. The abdomen swells, and prominent veins appear over the surface; the feet also swell; while the rest of the body is thin. By degrees the body enlarges, is hot, and the patient complains of faintness. Such varieties are incurable, and the other forms are cured with difficulty, sometimes by manual assistance.

1. When diseased wind produces these diseases, the hands, feet, and abdomen swell, with pain in the sides, pit of the stomach, and back, and pain in the joints, which feel as if they were broken. The person complains of cough without expectoration, stretching and heaviness about the loins, the dejections and urine are constipated, and the

skin and eyes are of a dark yellow colour. The swelling is sometimes small and round, at other times large and oblong; sometimes it increases, and other times decreases, with severe pain in and over the abdomen, and dryness of the throat and the mouth. The skin has a dark yellow colour, and fever commences with chilliness. Dark coloured vessels are prominent over the abdomen, which is swollen, and when tapped, makes a noise as if a leathern bottle was struck. The treatment in this form should consist in giving preparations of ghee, with oleaginous laxatives and enemas, and the abdomen should be rubbed with hot unctuous preparations. Minced meat boiled may be applied warm over the pained part, or rice and milk. The invalid should also take milk with the broth made of wild animals.

2. *Bile.* This form of disease is produced by eating sour, bitter, hot, or dry food; by anger, drinking much wine, remaining much in the sun. The symptoms are fever, faintness, burning thirst, and a pungent taste in the mouth; the head swims round, looseness is produced, the eyes and skin are of a yellow tinge, the abdomen is of a green colour, and small yellow vessels appear upon the surface, with much perspiration; the body burns, there is a feeling as if smoke were rising in the throat, and

the symptoms of bilious diseases, as well as the peculiar symptoms of this disease are quickly developed. In such cases unctuous remedies should be applied externally, and prepared ghee internally, with a decoction of sweet medicinal plants, such as *kakoli, kirokakoli,* prepared ghee, with myrobalan, emblic myrobalan, and *bibhitaka* as a purgative. Then take a decoction of *botah* and other astringent plants, with sugar, honey, and ghee. Boiled rice and milk are to be applied to the abdominal region.

3. When *phlegm* is much deranged, the person cannot work, is always sleepy, is without feeling, with heaviness, sickness, no appetite, difficulty in breathing, and cough; the eyes and skin are pale, the abdomen swollen, cold and hard, and the bowels constipated; and white vessels appear upon the surface. After many days the swelling is completely formed, and is very difficult to remove. The body feels cold and hard, and the abdomen heavy. The *treatment* consists in administering ghee prepared with long-pepper, and other stimulant and carminative medicines. Enemas of cow's urine, oil, and a decoction of long and black pepper and ginger, are to be exhibited. The abdomen should be rubbed with the following mixture: take equal parts of linseed, hemp, and mustard seeds, with the seeds of horse-

radish. These are to be formed into a plaster, and applied, with other hot medicines, to the part.

4. The derangements of the *wind*, *bile*, and *phlegm* together produce this form of disease; the symptoms and treatment of which will be varied according to the humour chiefly affected. It is increased by cloudy weather, when the abdomen is swollen; and when the air is cold, it is also increased in violence, and the person becomes faint; the body is yellow, thin, and dry; and he complains of thirst. This form of disease is called *dushydara* or *Ascites;* and its treatment is very difficult. The physician should before commencing it, inform the friends that the disease is incurable; and then he may try the effects of remedies.

Rakta gulma, or bloody tumour in the womb of the female, is characterised by severe pain, with emaciation of the body, and other symptoms of malignant or cancerous tumours.

There is a kind of *gulma* so like pregnancy that it may deceive physicians, unless they observe the precaution of not giving medicine until after the tenth lunar month; the period of uterogestation.

The unfavourable symptoms of *gulmá* are its enlarging so as to fill the abdomen, and the increase being rapid, and the swelling being surrounded by vessels, with much pain in the breast

as well as in the part. When the swelling is of the figure of a turtle, with debility, loss of appetite, nausea, cough, vomiting, restlessness, fever, thirst, coma, and the discharge of mucus from the mouth and nose, without either taste or smell, such a person will not recover. When a person with *gulma* has fever, asthma, vomiting, diarrhœa, and swelling of the breast, umbilicus, and of the hands and feet, the disease will be fatal; which will also be the case after asthma, colic, thirst with no appetite, and much pain in the joints, and when the swelling suddenly disappears, with much weakness.

The treatment of these severe forms of disease must vary with the cause. Should the derangement of the wind, and the accumulation of fæcal matter produce it, laxatives are to be freely used; such as castor oil; also, cow's milk and rice. This treatment should be continued, with the use of camel's milk, and avoiding drinking water. The person should take daily a dose of long-pepper, rock-salt, with the oil of croton, the fresh juice of ginger, or myrobalan and sugar. In other cases, a thousand cloves are recommended to be macerated for seven days in the milk of euphorbium; and then dried, powdered, and taken occasionally. Many forms of purgatives are recommended in this dis-

ease. The kind of *gulma* resembling pregnancy is produced by the retention of the menses, as sometimes occurs to women soon after delivery, from eating improper food, or when, during the flow of the menses, wind is deranged, so as to stop the menses, or after abortion. The symptoms of this form are the same as those produced by diseased bile, and at the same time the swelling moves about like a ball of clay, with the symptoms of pregnancy. When a round swelling is felt in the abdomen of a woman, the same as in uterogestation, and is so painful that the part cannot be touched, you are not to use remedies for the cure of this disease for ten lunar months, and then you may prescribe medicines for it. The treatment of this variety is the same as that for derangements of the three humours in other parts of the body, combined with those for *gulma* produced by bile, with emmenagogue medicines, such as potassa prepared from the Butea frondosa tree. One seer of this charcoal is mixed with six seers of water, and repeated twenty-one times. Four seers are then mixed with half a seer of ghee, and boiled down to half a seer: dose, one tola. This is taken internally, so as to separate and discharge the coagulated blood, which is supposed to be pent up, and producing the disease. Injections into the vagina of

the female, with ghee prepared with long-pepper, black-pepper, and other hot medicines, are also recommended.

5. *Disease of the Spleen (plihudara)*, in which there is an enlargement in the left side below the heart. It becomes hard and painful, extending down the side of the abdomen, in the shape of the shell of a tortoise; and is accompanied with pain, heat, and uneasiness in breathing and coughing, occasional vomiting, vertigo, and fainting, discolouration of the skin, pallor, lassitude, and fever. When the biliary humour is particularly affected, the pain, heat, and fever are more intense, and the skin of a yellow tint; and when the phlegmatic humour is chiefly vitiated, the pallor, lassitude, and drowsiness are most remarkable. It is produced by eating indigestible food of a heavy nature; and articles which produce cold, such as curdled milk, and food which increases phlegm. These substances, when frequently eaten, derange the blood and phlegm, and swell the spleen.

For treating diseases of the spleen, give prepared ghee, promote perspiration, by employing the steam bath, and give rice with curdled milk for one day. A purgative is to be given of teori (convolvulus turpethum) and black salt, mixed with spices, and diffused in water flavoured with the juice of

the pomegranate, jujube, and myrobalans. This purgative should be followed by tonics and alkalies. When the organ becomes enlarged, and much pain is felt, blood is to be taken from the left arm below the elbow, and as the blood flows, rub the spleen, with which the open vessel communicates, with the hand, to evacuate the bad blood in that organ. After this, the patient should drink milk with powder of calcined oyster shells, nitre or natron, seasoned with pepper, ginger and assafœtida; or other mixtures of an antacid and refrigerant description, slightly qualified by carminatives. If these measures fail, the actual cautery is to be had recourse to.

6. *Liver complaint, (jakritudara)*, is considered a severe disease, which is varied in its symptoms according as the wind, bile, phlegm, or blood are deranged. The pain and swelling being on the right side, when necessary, the blood is to be taken from the bend of the right arm, after ghee has been administered, and perspiration promoted. The rest of the treatment is the same as that recommended for diseased spleen.

7. *Abdominal concretions.* This form of disease is produced by the accumulation of indigestible matter with the food; such as hair, gravel, and the like, which are supposed to accumulate in the in-

testines, forming balls, and causing obstruction. The swelling in such cases occurs between the chest and umbilicus. The person has stercoraceous vomiting, as a drain is stopped by an accumulation of filth. The wind, bile, and phlegm are deranged at the obstructed part. The stools are in small quantities, are evacuated with great pain; and the umbilicus and breast are much swollen.

In this disease it is recommended to give ghee internally, and rub it over the abdomen, while perspiration is produced by hot baths, &c. When these remedies are of no use, and the position of the patient desperate, an operation is recommended, and is to be performed in the following manner: below and on the left side of the umbilicus, and four fingers breadth from the linea alba, an incision is to be made four fingers breadth in length, and four fingers breadth of the gut are to be drawn out, with the substance, whether stone or hair, or unhealthy secretion, the cause of the disease, which is to be removed: ghee and honey is to be rubbed over the wound in the intestine, and it is then to be returned into the abdomen. Apply sutures, and treat the external wound as recommended in such cases. Avoid any currents of air

after the operation, and carefully follow the physician's prescriptions. *(Susruta.)*

7. *Accidental abdominal swellings (parisrabyudara or agantuka.)* These swellings are produced by sharp substances, such as fish bones, portions of wood, &c., being taken with the food, and wounding the canal; and the watery discharge, proceeding from the wounded surface, is evacuated by the anus. The abdomen increases in size, under the umbilicus, with much pain and burning. It is to be treated as the last; but both are generally incurable. The other forms are cured with difficulty. Warm baths and milk diet are recommended.

8. *Ascites.* When a person has taken a large quantity of prepared ghee, has had frequent enemas, or, after emetics or purgatives has drunk large quantities of cold water, which stops the absorbent vessels, and produces this disease: in these cases the abdomen becomes large, with the umbilicus prominent, and appears shining as if anointed and full of water, and like it moves about, and gives a sound like a leathern bag.

In this form of disease there is swelling, weakness, loss of appetite, languor, and enlargement of different parts of the body, constipation, burning, and great thirst. When with these symptoms water collects, the disease is incurable.

In ascites the abdomen is to be anointed with oil, prepared with medicines to cure diseased wind, and a friend is to hold the patient in a reclining posture by the arm-pits. The practitioner then introduces a trocar an inch (four fingers breadth) below, and on the left side of, the umbilicus. The trocar is removed, and a tube is put in its place. The morbid fluid for sixteen days is to be allowed slowly to evacuate itself, and a light bandage is to be placed round the waist after the operation, so that the wind may not swell the abdomen; this bandage must be continued for a considerable time. For six months after this operation milk is to be freely used with rice, or the broth of wild animals with rice; and after three months half the quantity of water and milk with rice may be taken, and other three months light and wholesome food. This form of the disease will be cured in one year.

Order 7. Colic (*Sul, Gastroperiodynia*). This order is called *sul*, from the excessive pain, and is an example of groups of symptoms being employed in classifying diseases, and, in consequence, several very different complaints are arranged under the same head. There are eight varieties of this frequent and most distressing disease, which are produced either by derangement of wind, bile, or

phlegm; by two or three being deranged together, or lastly, by indigestion. In all these forms, however, wind is more or less deranged.

1. The causes of wind colic (*bayu sul*) are violent exercise, as fighting, riding, frequent intercourse with women, watching at night, drinking too much cold water, eating peas (especially *kalai*, *mudga*, *araki*,) dry food, as dry flesh, vegetables, and fish, bitter or astringent food, overeating, or eating too often, and injuries. When rice or other grain that has vegetated, is eaten, or an improper mixture of food is taken, as milk and flesh, &c., or when the calls of nature are not attended to, and the semen, urine, wind or fæces are constipated; or there has been grief, fasting, much or loud laughing or speaking, may produce *sul* by deranging the wind. When so affected, the accession of pain occurs at intervals, or the person drinks cold water on an empty stomach, when the food has been digested, towards the evening in the rainy season, when the sky is overcast, and during the winter months.

The pain is in the chest, in the sides of the abdomen, in the back, in the joining of the lumbar vertebræ with the os coccygis, and in the pelvic region. It is accompanied with difficulty in breathing, rigidity of the body, and scanty evacuations. It is diminished by the application of

hot external medicines, friction, or shampooing over the part with oleaginous applications, and drinking hot liquids. The pain in *wind sul* is first to be checked by hot applications, as bruised til-seed made into a poultice, and applied hot to the part; the external application of hot rice and milk is recommended, or flesh boiled and applied hot to the pained part.

2. When the disease is produced by fasting, the person may take hot milk, light rice pudding, or animal broth with ghee. The diet in this disease should be milk and oleaginous substances, and soup made of the flesh of wild birds, and of burrowing animals. Wine-whey is also of use, with butter-milk, curdled-milk, black-salt, and vinegar, with diaphoretics and purgatives. When deranged *bile* produces this disease, it is caused by eating nitre or heating salts of the same kind, hot food like white mustard-seed, pepper, or the like; different kinds of wines, roasted food or oils, or shoots of the young bamboo or oil cake, or sour or bitter food; great anger, remaining near the fire, exposure to the sun, great fatigue, excess in venery, or anything that is very heating is to be carefully avoided. These different causes derange bile, and produce the form of *sul* which is felt in the umbilicus. In this case it produces thirst

and depression of spirits; the senses are dull, the body hot, and there is severe pain in the umbilicus. The patient perspires much; is giddy and sometimes faints, with dryness of the mouth; he is eager to remain in a cold situation and to take cold articles of food. Accessions of pain occur at noon and midnight, during great heat of the weather, and at the beginning of the rains. The pain is diminished during the cold hours of the day, when the body is cool; and when cold or bitter things are taken, especially when they are grateful to the patient, they mitigate the symptoms.

In the treatment mild vomits are to be used, and then cold water, and everything cooling to be drunk, while heating articles are to be avoided. Cooling things are to be applied to the pained part, as stone, silver, copper, or vessels filled with cold water. He should use purgatives and barley, rice, milk, ghee, the juice of the flesh of wild animals, birds and aqueous plants; and medicines that diminish bile.

3. When deranged *phlegm* produces *sul*, it is caused by eating the flesh of the rhinoceros or buffalo, fish or any kind of food obtained from water, whey, milk, or butter-milk; or sugar-candy, rice cakes, or sesamum-seed, oil, rice, and other

symptoms are the same as produced by deranged phlegm. There is a rumbling noise heard in the abdomen, with nausea and vomiting, the body feels heavy and cold, as if covered with a wet cloth, and the breathing is difficult. The person has neither appetite nor can get sleep; he is costive, with severe pain in the abdomen, and there is a discharge of phlegm from the nose, mouth, &c.

In this variety, first use a vomit, enjoin total fasting, with such remedies as increase the internal heat or appetite. The other remedies used for *gulma* may be given with advantage, particularly when the symptoms stated under the form produced by derangements in phlegm, appear in this variety.

In order to distinguish these different forms of *sul*, the practitioner should know that wind is chiefly affected, when the pain is principally confined to the pelvic region. When phlegm and wind are deranged, there is severe pain in the pelvis, sides of the abdomen, and back. When bile and phlegm are deranged, the pain is in the scrobiculus cordis, and between the chest and the umbilicus. When wind and bile are deranged there is great heat of the body, and inflammatory fever. When wind, bile, and phlegm are deranged the pain is felt in all the above situations. *Sul* may be

cured when it is produced by either wind, bile, or phlegm being deranged singly: When two are diseased, with difficulty; but when all the three are deranged at the same time, it is incurable. In *sul*, some other forms of disease may accompany and complicate it; such as severe pain, thirst, fainting fits, spasm of the intestines with costiveness, the body being heavy and there being no appetite, with cough, asthma, and hiccough. Other shastras enumerate the following symptoms in *sul:* severe pain in the abdomen, vomiting, fever, thirst, and the body seeming to swim round. When the person becomes thin, and has no strength, he will not recover.

9. *Parinam sul* is the variety produced during the digestion of food. When wind is deranged by the usual causes it affects also bile and phlegm, and *sul* is the consequence. After eating, when digestion has taken place, severe fever occurs. The symptoms of this variety are these; when wind is deranged, the abdomen swells, a gurgling noise is heard there; the alvine dejections and urine are constipated, with lassitude and shivering; and oleaginous and hot medicines give relief. Bile, when much deranged in this form of *sul*, produces thirst, heat, restlessness, and copious perspiration, with disrelish for food; and when sour, pungent,

articles of food which are of a cooling or heavy nature, as *maskalai*. All these articles increase phlegm, and may thus produce *sul*. In these cases the patient complains of nausea, cough, languor, and want of appetite; phlegm proceeds from his nose and mouth, the pit of the stomach is cold, and the body is very heavy, with headache. In such cases, after eating great pain occurs, especially at sunrise, and during the spring or dew months. (*Susruta*).

The cure of *sul* produced by phlegm should be commenced by exhibiting an emetic to remove from the stomach what the patient has eaten. For this purpose, long-pepper boiled in water may be used, and hot and dry remedies applied to the part. A hot regimen is to be followed; such as the use of long-pepper and dry ginger, with the following mixture: take equal parts of the root of the *gokra*, (ruellia longifolia); *maricha*, (black-pepper); *pipula*, (long-pepper); *sunti*, (dry ginger); *bacha*, (orris root); *pata*, (aknuda, a plant); *katrahini*, (black hellebore); *chitraka*, (plumbago zeylanica), of each twenty rateka: mix together in water, which is to be boiled until reduced to a quarter. This is given internally with nitre.

This last decoction will be found of great use in that kind of *sul* which is produced by derange-

ments of wind, phlegm, and bile. It will cure it, as wind disperses clouds. In all forms of the disease castor oil, wine, whey, milk or lemon juice, will be of use. There are also different remedies recommended according to the situation of the pain, whether it be in the scrobiculus cordis, bladder, or region of the heart.

4. When phlegm and wind are deranged, the patient complains of severe pain in the pelvic region, the sides of the abdomen, and the back.

5. When *wind* and *bile* are diseased, there is great heat of the body, and inflammatory fever.

6. When *bile* and *phlegm* are affected, the pain is in the scrobiculus cordis, and between it and the umbilical region.

7. When *wind*, *bile*, and *phlegm* are deranged together, the symptoms of the three above forms are combined in one person. When so deranged in one spot, a physician will know it by examining the part. This form gives much distress, like poison or thunder, and such a person should be avoided by the physician as incurable.

The treatment of this variety is the same as above, varying the remedies according to the severity of the symptoms of wind, bile, and phlegm.

8. When *sul* is produced by indigestion, the

or salt things are eaten the pain is increased, and when cold food is eaten it gives relief. When phlegm is much deranged there is vomiting, nausea, and dulness of the intellect, with pain, not severe, but remaining many hours; in which case pungent or bitter things give relief. When two of these are deranged the respective symptoms are combined; and when three are deranged the person will die. When such a person's flesh, strength, and internal fire are much diminished, the disease will be fatal.

The treatment should consist of emetics followed by bitters, purgatives, and enemas. The following powders are also recommended. Take equal parts of *biranga*, (vermifuge seed); *sunti*, (dry ginger); *pipuli*, (long-pepper); *maricha*, (black pepper); *danti*, (croton polyandrum); *tribrit*, (convolvulus turpethum); *chitraka*, (plumbago zeylanica): make them into an electuary with sugar, and take it every morning with warm water. Another remedy in this form of the disease is *sunti*, (dried ginger), *tila*, (til-seed), and jagry, which are made into an electuary with milk.

Annadrabá, is another form of *súl*, in which the pain occurs after eating, or during or after digestion. When present it is not removed by following a proper regimen, or eating good or bad food;

but after vomiting bile the patient feels better, the pain continues under all circumstances of food, &c. This form is to be treated with fasting, and the administration of emetics. A mixture of emblic myrobalan, yellow myrobalan, and ginger, with the addition of iron (carbonate) is of use. Another mixture is prepared by equal parts of *biranga*, (vermifuge seed); *musta*, (cyperus rotundus); *haritaki*, (myrobalan); *amlaki*, (emblic myrobalan); *bibitaka*, (belleric myrobalan); *gulancha* (menispermum glabrum); *danti*, (croton polyandrum); *tribrit*, (convolvulus turpethum); *sunti*, (dry ginger); *pipuli*, (long-pepper); and *marich*, (black-pepper). These medicines are to be mixed with the powder of *jawani*, (ligusticum ajwaen,) and the carbonate of iron and water. The regimen in this form of the disease should consist of prepared rice in the form of conjee, with sugar and ghee.

Other *shastras* recommend promoting perspiration by hot baths, or vapour baths, by medicines to promote digestion, such as nitre, impure soda, and alum. It is also recommended to take eight *máshá* each of dried ginger, the root of the castor oil plant and barley, and mix them in a mortar with half a *seer* of water. This is boiled down to a quarter, for a dose; and will generally relieve or remove the pain of *sul*.

Order 8. *Worms and Insects* (*Krimi*). The Brahmins were in error, when, without carefully and perseveringly examining nature in its different aspects, they were content with a particular fact, and then reasoned on it from analogy. The symptoms of the presence of worms, that infest the human body, are described faithfully, and the treatment to remove them; but their divisions and descriptions of worms were fanciful and inexact.

They distinguished internal and external worms. Others say that there are four kinds; one is external and produced by filth on the surface; others are internal, or are produced by phlegm, by blood, or by the fæces. There are twenty varieties of these worms, each of which has a particular name. When produced externally by filth, the insect is like a small til-seed with many feet, is found in the hair and clothes, and is called *juka* (lice). They produce small itchy pimples, and sometimes a boil.

When *phlegm* produces the worms internally, it is deranged by bad food, particularly when taken at improper times, or with much sugar, or sweetmeats, or much liquid, as vinegar, or sour food, curdled milk, vegetables, and unleavened flour, when taken daily and frequently. A seden-

tary life, and sleeping during the day, predispose to worms. When *blood* produces worms many diseases are the consequence; caused by improper mixtures, or by indigestible food, certain vegetables, &c. They are formed in the blood.

The general symptoms of internal worms are fever, paleness, and discolouration of the surface, severe pain or *sul*, especially in the breast, with languor, giddiness, loss of appetite, and diarrhœa. When produced by phlegm they are usually found in the stomach (*amasiya*), and resemble earth-worms, and when very large they pass from one intestine to another. Some of the worms are like rice or *chira* which has begun to germinate, some are long, others are short, and very small; some are white, others are copper-coloured, or like mahogany. There are seven varieties of worms found in the stomach. 1st. *Antrada*, or the gnawing kind; 2nd. *Udarabesta*, large form; 3rd. *Rhidagada*, produces a gnawing pain in the breast; 4th. *Mahagada*, with a large tail; 5th. *Charaba*, like flattened rice; 6th. *Durbakusama*, like the flower of a certain grass; and 7th. *Sugandha*, which has a pleasant smell. These seven kinds of worms produce nausea, a copious discharge of saliva, indigestion, want of appetite, fainting, dozing, vomiting, and fever; suppression of urine

and fæces; and weakness, sneezing, and a discharge of mucus from the nose.

The worms in the blood have no feet, some have a round figure and red colour (red globules of the blood), and they are so small that they cannot be distinctly seen. Their names are, 1. *Kaysada:* this form eats the roots of the hairs of the head, which drop out. 2. *Romabidhansa:* this form eats the roots of the hairs over the body. 3. *Romadipa:* this variety produces elevations at the roots of the hair. 4. *Urumbara*, are like the seeds of the wild fig; these worms may produce leprosy. 5. *Saurasa*, (father), and 6. *Matri*, (mother). These two pass quickly from one relation to another, or are hereditary. Susruta enumerates other kinds of worms generated in the blood: as *nakhada*, which destroys the nails; *dantada*, which produces the caries of the teeth; and *kikisa*, which always accompanies leprosy.

When worms form in the large and small intestines they are called *parisajya*; are produced in the fæces, and are discharged by the anus. When these worms grow and ascend in the abdomen, frequent eructations occur, which have the smell of the dejections. They are large, round, thick, or thin; and are sometimes of a gray colour, or of a yellowish white, or of a dark colour. There

are five kinds of such worms: 1. *Kakiraka;* 2. *Makiraka;* 3. *Sausurada*, producing much pain; 4. *Sasulakiya;* and 5. *Seliha*, which licks the intestines. These worms produce diarrhœa, pain in the stomach, dryness of the fæces, constipation, and weakness, roughness, and dryness of the surface of the body, which is of a dirty yellow colour. There is also loss of appetite, with an itchiness towards the anus.

For removing external worms, fluid mercury is to be rubbed with sulphur until a homogenous black mass is produced; or the sulphurate of mercury, is mixed with the juice of *datura stramonium*, and rubbed over the part. In the present day a weak infusion of tobacco is often used.

The thirteen first kinds of internal worms are curable, but the seven last are very difficult, or are incurable. The treatment in this case is to commence with the administration of an emetic prepared with ghee and *sarasadi*, which is a mixture formed of various stimulants and bitter remedies. Strong cathartics are then to be given with clysters. The oil made of vermifuge seeds, is to be given with salt, and with the decoction of *biranga*. The patient should, at the same time, be careful to avoid such food, and other causes that promote the generation of

worms. He should take of the juice or paste of the *palasa* seeds (Butea frondosa), with the decoction of the *biranga* seeds; the juice of the leaves of *paribhadraka* (erythrina fulgens), with honey; or the juice of the leaves of *patura* (salincha B.) or the powder of *biranga* with honey. This medicine should be mixed with the bread and used by the patient. Different preparations of iron, or the powdered root of long-pepper, taken with goat's urine, are of use. Tin is recommended to be rubbed upon a rough stone, and the small particles thus removed from the mass to be taken in whey. The treatment in cases of insects at the roots of the hair which fall off, is the same as that for baldness. The worms in the blood are to be treated as for leprosy.

Patients with worms should live on diet mixed with pungent and bitter food, while the following articles of food are avoided: milk, flesh, ghee, curdled-milk, vegetables with leaves, acids, sweetmeats, and cold articles of food.

For internal worms, Susruta recommends the following decoction: Take of cyprus rotundus (*mustaka*), croton polyander (*Danté*), myrobalan chebula (*naritaki*), emblic myrobalan (*amlaki*), belleric myrobalan (*bibhitaka*), the root of euphorbium ligularia (*mansa sy*), long-pepper (*peppoli*),

the fruit of the eritex trefolia (*biranga*), and pinus devadaru (*debdaru*), of each eighteen ratika. Boil in a pint of water till reduced to one-fourth; repeat this twice a-day.

Order 9. *Retention of Discharges, (Udabarta.)* If a man wishes to live long, he should attend to the calls of nature, while he avoids excess in the indulgence of the passions, particularly anger, pride, lust, revenge, and covetousness.

There are thirteen kinds of diseases produced by checking the efforts of nature to relieve herself; as by stopping the evacuation of wind, fæces, urine, by means of yawning, tears, sneezing, belching, and vomiting When these are not indulged in, they produce the obstruction which forms this class of disease.

1. When wind (*apana bayu*) is stopped in its passage through the anus, it produces a swelling in the abdomen, severe pain, difficulty in breathing, headache, hiccough, cough, discharge of mucus, difficulty of deglutition, and vomiting of bile, phlegm, or fæces, with constipation, and severe pain in the anus, followed by a discharge of wind.

2. *Dejections.* When the fæces are confined, a gurgling noise is heard in the abdomen, with pain in the anus as if the part was cut; the dejections

are confined, as wind ascends, and sometimes stercoraceous vomiting occurs. It is to be treated as for *a'naha.*

3. *Urine.* When confined, there is severe pain in the pelvis, urethra, anus, scrotum, groins, navel, and sometimes in the head, when the urine is discharged in small quantities with pain. The bladder swells, and the body remains bent forward. *Sabarchala* (impure soda) and other such salts, cardamum seeds, with wine and milk, are to be given. The juice of the fruits of *a'mlaki,* (emblic myrobalan) with water; or the juice of the sugar-cane, and of the fæces of the horse or ass, are recommended; as also the seeds of cucumber with water and salt, and other diuretics.

4. When *gaping* is checked, the diseases of the neck, throat, and of the head are produced; with other diseases of wind, as of the eyes, nose, ears, and mouth. To prevent these causes, anoint the body with oil or ghee previously heated.

5. When *tears* are confined, which flow when the person is very happy, or very sorrowful; and when confined, the head becomes heavy, and various severe eye-diseases are produced. In such patients the phlegm discharged from the nose and mouth is without smell or taste. In these cases the body is to be anointed with warm oil, and a

pigment of a hot nature to the border of the eyes, to make them discharge the tears: such as cloves rubbed up with honey and strong errhines. Pungent smells will also be found useful.

6. When *sneezing* is arrested, diseases of the head, eyes, nose, and ears may be produced. Tickle the nose, and look at the sun so as to allow his rays to fall upon the mucus membrane of the nostrils, to produce sneezing.

7. When *belching* is confined, the throat and mouth feel as if distended, and painful; the person's speech is not intelligible, wind is confined by the mouth, anus, &c., producing the diseases of wind. A cegar is to be formed of spices and ghee, which is to be smoked. Wine with soda, or the juice of lemon, may likewise be administered.

8. Should *vomiting* be impeded, it produces leprosy, loss of appetite, jaundice, fever, great sensibility of the skin, and nausea, followed by anasarca. In such cases ghee is to be externally applied and internally administered, mixed with saltpetre or salt. Emetics should also be used, with purgatives, and general bleeding.

9. When *semen* is confined, the bladder, rectum, and testicles swell, and become painful. The urine is confined and is discharged in small quantities with pain, or the urine has a white deposit, and

the semen is discharged involuntary. The other diseases may occur that deranged semen produces. In this case certain diuretics and decoctions with milk are to be administered, and the person is to approach his favourite wife.

10. When the *appetite* is not gratified, it is followed by drowsiness, pain as if the part was crushed, loss of appetite, fatigue, and the eye is dim. In this disease, anoint the body with warm ghee, and give it in the food, with hot drinks.

11. When the *thirst* is not gratified, the mouth and throat become dry, the hearing dull, and pain is felt in the breast. To remove this, the person should take fresh conjee or barley water, with sugar and lemon juice.

12. When the *breathing* is difficult, being confined from the fatigue produced by severe exercise, the food appears to stick in the throat, the understanding is impaired, producing *gulma*, or a feeling of hard lumps in the abdomen. In such cases, rest and gruel are to be enjoined, with animal broths.

13. When *sleep* is not gratified, it is followed by yawning, and pain of the body, as if it was crushed. The eyes and head feel heavy, and coma supervenes; give milk, employ soothing language, and medicines which promote sleep.

When dry, astringent, sour, or bitter food is eaten, the wind of the stomach quickly produces *udabarta*, and deranges the canals of air, urine, fæces, blood, phlegm, fat, and the vessels which feed them. Wind closes these canals, and produces pain in the breast and pelvis, with heaviness of the body, and no appetite, with scanty evacuations; which are passed with difficulty.

The retention of the above discharges produces pain in the chest and abdomen, nausea, laziness, and the wind, urine, and dejections are evacuated with pain. If produced by phlegm, there is difficult and noisy breathing, and the phlegm is discharged from the mouth and nose. (*Coryza*). In this case there is neither taste nor smell; and the body feels hot, with dejection of mind. The person is insensible, and complains of thirst, fever, vomiting, hiccough, and headache. He is also deaf, the body swims round, followed by the other symptoms of deranged wind; the life of such a person should be considered hopeless, when there is much thirst, great weakness, and languor, severe pain in the abdomen, and stercoraceous vomiting. All kinds of *udabarta* are to be treated as diseases of wind, so as to open the closed up passages, and the body in such cases of disease should be anointed with oil and salt, and prepared

ghee should be taken internally; enemas should also be used. If the disease is not cured by these medicines, hot applications are to be placed upon the abdomen, followed by oleaginous purgatives. The person should take a decoction made of *tribrit*, *pilu*, *jawani*, and the juices of acid fruits, mixed with water. The following is also recommended: Take *hingu*, (assafœtida); *kusta*, (costus speciosus); *batsa*, (pothos officinalis); *sarjika*, (impure soda); *biranga*, (a vermifuge medicine), of each thirty-two ratika; mix and form a decoction. These remedies will cure *udabarta*, and pain. Suppositories will promote the evacuations; clysters are also given, with the fumes of certain medicines. Other practitioners recommend, with the above plan of treatment, fasting, the hot bath, with purgatives, and hot carminatives.

When the fæces are not properly prepared for expulsion, but are discharged in small quantities with pain, it forms the disease named *a'naha*, (costiveness). It is accompanied with great pain in the epigastric region, thirst, a discharge of mucus from the mouth and nose, accompanied with headache and heaviness of the body, particularly in the chest. These persons have no eructations, complain of pain in the loins and back; the urine and fæces are constipated with severe pain, and there

is difficulty in breathing, fainting, and stercoraceous vomiting. These two last symptoms are only present when the *pakasia* (the large intestines) are affected. The treatment is the same as in *udabarta*.

Class VII.

DISEASES OF THE RECTUM AND ANUS.

These consist of piles, prolapsus ani, sores near the anus, fistula-in-ano, and stricture of the rectum.

Order 1. *Arsa, (Piles.)* There are six varieties of this disease according as it is produced from deranged wind, bile, and phlegm, the three humours deranged at the same time, diseased blood, and the last form is congenital or hereditary.

That part of the rectum called *guda* is five and a half fingers breadth in length, and like the spiral cavities in the sacred shell, used in the Hindu temples, has three spiral turns, which accelerate or assist in expelling its contents; the second is that which expels; and the third is the sphincter. Piles are usually situated in these parts, the causes pro-

ducing them are, exposure to the weather, drinking spirits, grief, &c., the improper mixtures of food, fasting, dry ginger, the hot season, &c., excessive fatigue, the unnatural position of the body when long indulged in, horse riding, and the want of attention to the calls of nature. By these causes the humors are deranged in the anus, and produce tubercles or piles.

When the wind is deranged they exhibit the following signs; round the anus small tumors form, which are dry, slightly painful, rough, red, and irregular. The disease is accompanied with constipation, pain in the back, loins, penis, anus, and umbilicus; and is occasionally accompanied with pain in the breast, want of appetite, and noise in breathing; sometimes the appetite is good, at other times it is much impaired. The blood is often evacuated by small orifices from time to time. The skin, eyes, face, mouth, teeth, and nails appear dirty and yellow, with unhealthy yellowish dejections, and urine. Symptoms likewise appear like *gulma* or spleen; or, it even produces these diseases. In other cases the piles produce a kind of hysterical ball.

When bile is deranged the swelling has an erysipelatous appearance; at other times it has a blue, yellow, red, or liver colour, with orifices in its

surface, like the mouths of leeches. The blood evacuated is very thin, and there is a considerable fœtid discharge, with pain in the part, accompanied with fever, thirst, and fainting, there is no appetite, perspirations occur, with a yellowish appearance of the body.

When phlegm is deranged, the tumors are pendulous, near each other, hard, round, shining, and of a white colour, like the paps of the cow. There is no discharge, they are cold, itchy, heavy, remain stationary, and the stools are mixed with mucus, and appear like water in which flesh had been washed. In some cases the disease is accompanied with swelling of the extremities, with feverishness, loss of appetite, heaviness, and pain in the head ; and the skin, nails, eyes, face, urine, and fæces become white. In these diseases there is a small discharge of urine, the person often becomes impotent, and digestion is impaired, with vomiting. Those diseases which impair digestion, produce this disease. When the three humors are disordered, the symptoms of the three separate diseases are present. This form is preceded by rigors.

When blood produces the disease, the pain is like that of a needle thrust into the skin, and the symptoms are like those of deranged bile.

The tumors resemble the hanging roots of the banyan tree, or the small red seeds with black spots, or like coral. When costiveness occurs, it is accompanied with a free and rapid discharge of blood, which is hot, and produces the usual effects of a great and sudden loss of blood. The person with this disease remains yellow, like the yellow frog; weak, silent, and sad; his skin is dirty, and all his senses perform their offices imperfectly, or they are diseased. The dejections are gray, like smoke, dry and hard, and in others they are thin, yellow, and frothy.

The last form of this disease is produced by a hereditary disposition, from the germ having been mixed in the semen and female blood. The tumors in this form become rough, of a white unnatural colour, with internal openings. The patient cannot eat much, his body has large veins over the surface, and his voice is low. He is impatient, is easily roused, has little appetite, is afflicted with diseases of the eyes, ears, nose, and head, and is always complaining of diseases of the stomach and intestines.

Tumors like those of piles sometimes form in the cavities of the ear, nose, mouth, vagina, and upon the penis; and on the navel. When affecting the internal ear, they produce deaf-

ness, pain, and a fœtid discharge from the organ. In the eyes they cover the eyelids, and sometimes destroy the sight of the organ. When in the mouth, they are attached to the throat, lips, and palate; they impair the voice and taste, and produce other diseases of the mouth. When in the nostrils, they produce difficult breathing, a fœtid smell, a change of voice, pain in the head, and a considerable discharge from the nose.

The deranged humors produce the disease on the surface of the body, when they form tumors of different sizes. When the wind is deranged, the disease is accompanied with throbbing; when phlegm, the colour of the tumor is the colour of the skin, and hard. When bile and blood are deranged, producing the disease, the tumors become black and rough. Those piles which form externally are curable, as also those in the first and second convolutions of the rectum, but in the third the disease is incurable, and also after they have existed for upwards of a year.

There are four indications for the cure of piles. The first is by medicine, the second by the application of caustics, the third by the actual cautery, and the fourth by the knife. When the disease is recent, and it is not accompanied with any bad symptoms, they may be cured

by medicine. When soft and elevated, with a thick base, they are to be cured by caustic. When these have been found insufficient for curing external piles, the following paste is to be applied: Take of the juice of the euphorbium longifolium (*siju kshir*); turmeric powder (*shandra*), a quarter tola; make into a paste with water and apply to the part. When hard, rough, and large, the tumor is to be cured by the actual cautery; and when the base is narrow, and they are elevated and moist, they are to be removed by the knife.

The caustic potassa is applied in the following manner: The patient is first to take some oleaginous and bland diet, such as rice and milk; the parts are then to be well fomented, and on a cool day, when there are no clouds in the sky, the patient is to be placed upon a table, with a good light thrown upon the part. He is to be supported by two assistants holding his head and shoulders; and his loins are to be elevated with a soft cushion. The knees and legs are to be raised, and separated by a bandage passing round the knees, feet, and neck. The body is thus firmly fixed, and a little ghee rubbed upon the part. The patient is next to press downwards, so as to force out the anus; the piles are to be dried with a piece of cloth, and the caustic fluid applied over the part

by a broad pointed probe. The caustic is allowed to remain as long as is required to pronounce one hundred words, when it is to be rubbed off, and it is only when necessary that it is to be again applied. When the piles become black, and are diminished in size by the caustic, the necessary effect has been produced. The part is then to be washed with a spirituous cooling application, or with whey or water mixed with the juice of acid fruits. Dry the part, and then apply ghee mixed with the decoction of liquorice. A warm bath is then given, and tepid water poured over the body. He is then left in a room shut up, and must live on spare diet. When any other piles appear, or when there are many, the application of the caustic is to be made every seventh day, until the cure is completed. The applications are first to be made to the piles of the right side, then the left, and after that the part behind and before. If the caustic is too freely applied the anus is destroyed, with burning fever, fainting, and discharge of blood.

When the piles are large and the person strong, they are to be removed with the knife, and the actual cautery applied to stop the bleeding. The diet is the same as after the application of cauteries. When the piles are not visible internal remedies

must be used, such as myrobalan with jagry every morning. A hundred seeds of the myrobalan are to be boiled in the hot urine of cows. After they have been boiled for some time, take them out, dry them, and then reduce them to powder. Such doses are to be taken as will operate on the bowels. The farina of the *satamul* root is to be taken daily with milk. Tonic and bitter tinctures may also be used with advantage.

When the piles are painful, use fomentations and poultices, with purgatives, emetics, and clysters. He should also avoid stopping the calls of nature, connexion with women, horse riding, &c.

2. *Stricture of the Rectum.* This disease is produced by habitual costiveness, by which the wind of the part is diseased, which diminishes the size of the rectum. The fæces are then evacuated with difficulty, and in small quantities. It is very difficult to cure.

Apply oleaginous substances to the part, such as hog's lard and oil, prepared with a decoction of those medicines which cure wind. Every third day introduce a rectum bougie, made of lac, wax, wood, or metal, covered with ghee, which is to be increased in size from time to time. The food is to be of an oleaginous nature.

3. *Prolapsus Ani.* The rectum is prolapsed

during the evacuation of the fæces in weak persons; particularly when affected with long continued diarrhœa, or much straining.

The treatment to be pursued is to foment the part, apply oleaginous substances to the prolapsed gut, and return it slowly. Then a bandage is applied, on which a convex piece of hard leather is placed over the anus, and retained there by means of a bandage tied round the loins and between the legs. Fomentations are occasionally applied, and the body of a rat, from which the intestines have been removed, is made warm and applied to the part affected. Charaka recommends clarified butter, gum of the soral leaves, decoction of dry plumbs, and curdled milk, of each eight chitacks, with dry ginger and nitre, of each four tolas. These are boiled until the water is dissipated. The powder is then applied externally; or milk and a decoction of *maha pankamula* is strained, and exhibited internally and externally.

4. *Superficial Ulcers round the Anus.* Eruptions sometimes form round the anus, from want of cleanliness. They become itchy, are scratched, and ulcerate; producing this disease. They often occur in children, and are produced by derangements of the phlegm and blood. These ulcers

are to be treated by exhibiting purgatives, and other medicines, to purify the milk of the mother; and a decoction of tonic medicines to the child. Locally, astringent decoctions are applied, and the sulphate of zinc should be sprinkled over the ulcers.

5. *Fistula-in-Ano.* This disease is called *bhagandara*, because the anus, vagina, bladder, and its surrounding parts are affected. It is produced by deranged wind, bile, and phlegm, by their combinations, and by external injuries. The symptoms of this disease are ushered in by pain in the loins, of an itchy nature, and by a swelling near the anus.

1. This variety is produced by deranged wind, from living on bad food, when accompanied by a bad temper. The swelling usually takes place a finger breadth from the anus, by the wind deranging the flesh, and producing swelling and pain of different kinds. When not properly treated the swelling suppurates, and is perforated by many holes, through which a copious discharge of matter of a reddish colour, with froth and wind takes place. Sometimes the pain is as if the part was torn, or needles were thrust into it. Towards the termination, wind, urine, fæces, and semen is discharged from the opening.

2. When caused by deranged *bile*, it produces a large red swelling, resembling the shape of the neck of the camel. It produces a burning and painful sensation, like what is produced by deranged bile. When neglected it suppurates and terminates in extensive ulcers. The parts feel burning, and it discharges a fœtid and hot fluid. If neglected in this state, wind, urine, fæces, and semen are often discharged.

3. Produced by diseased *phlegm*, it is characterised by a white, hard, and itchy swelling near the anus, with the peculiar pain, characteristic of diseased phlegm. If not properly treated it suppurates, and passes to ulceration. This is hard, itchy, and discharges freely a mucilaginous matter, followed by a discharge of wind, urine, fæces, and semen.

4. It may be produced by the combination of these three humours; appearing first in the form of a swelling, like the figure of the great toe, and accompanied with different kinds of pains. It ulcerates as in the other kinds, and discharges different coloured fluids.

5. The accidental form of fistula-in-ano, is produced when an ignorant person eats the bones of fish, or of animals, which are carried to the rectum with the fæces, and should they be in a trans-

verse direction in the gut, the bones injure the parts, and produce inflammation and ulceration. Matter is then discharged mixed with blood. When this variety is not properly treated, worms appear in it, various openings are formed, and the wind, fæces, urine, and semen are discharged from these openings. Sometimes an eruption forms round the anus which is not fistulous. The pain is slight in this disease, and is spontaneously cured. In fistula-in-ano there is much pain, accompanied with fever, and the patient feels much inconvenience in walking or riding, and at the time of the evacuations. He complains likewise of pain in the loins.

All the forms of fistula-in-ano are cured with difficulty, more particularly when produced by a derangement of the three humors, and by accidents, as by the gut being transfixed by bones, or the like. When there is only a swelling, use an antiphlogistic regimen; as scanty diet, purgatives, and fomentations to the part. Cold applications, and poultices are often of use in these cases. Give decoctions to diminish the swelling; and if they are not sufficient to remove the disease, apply such medicines as promote suppuration. The swelling is then to be opened, and treated as other swellings of the same kind. Emetics and purgatives will

also be administered with advantage in this disease.

When the fistula is open, and there is an external and internal apperture, place the patient on a bed, introduce a director, and divide the flesh between the fistula and anus, then apply caustic or the actual cautery to the wound. When several fistulæ exist, perform the operation for one, and then for another. When they communicate with each other, open them all, if external, so that they form one wound. But when they do not communicate with each other, separate openings are made into the gut, and a red hot probe is passed over the wounds.

The severe form in weak and nervous persons is incurable. When the patient will not submit to the operation, fomentations and poultices are to be applied to the part with oil and ghee, and tonics are given internally. By this means the fistulous openings may be healed. In the more active and bilious form of the disease, the same treatment is to be followed without the actual cautery; as caustics will be found sufficient, followed by poultices and bandages on the third day, clean the part, and apply healing ointment. In the variety of this disease produced by phlegm the same plan of treatment is to be followed, after

which, warm oil and fomentations and poultices are to be applied to the part, and aperients exhibited internally.

In the accidental form of fistula, remove the cause, enlarge the fistulous openings, and apply the actual cautery to the cut surface, and the wounds and ulcers should be treated in the usual manner. After the cure the patient should avoid any great excitement, undue exercise, especially horse exercise, fatigue, anger, and heavy indigestible food.

When fistula occurs in children, neither caustics nor the knife are to be employed. In this case a small boguie is to be introduced, composed of turmeric and other ingredients; and a mixture of ghee and honey is to be applied to the wounded surface, which it will heal up.

Class VIII.

DISEASES OF THE URINARY AND GENITAL ORGANS.

Order 1. *Diseases of the Urinary Organs.* Under this head will be considered the diseases of the urine, bladder, and urethra.

Diseases of the urine are very common in hot countries, probably from the sudden and great

changes to which the secretions are exposed, from the climate, and manner of living of the inhabitants.

a. Morbid secretion of urine, (Prameha). This disease is produced by a sedentary life; as sitting, lying down, or sleeping in the day time, venery, using too much curdled milk; various kinds of fish, amphibious animals, or the flesh of buffaloes, new rice, much milk, bad water, or food with different preparations of jagry, or whatever produces phlegm. It is also caused by the deranged phlegm of the bladder, and particularly in the region of the bladder, which affects the fat, flesh, or serum of the body. The bile is deranged by its peculiar causes; and in like manner the wind may produce the disease, when the other humors are deranged, and conveyed to the bladder.

There are twenty varieties of diseased urine; of which phlegm forms ten varieties, which are curable; bile forms six varieties, which are cured with great difficulty, but do not destroy life; and wind forms four varieties, which are incurable. The causes of the different degrees of facility of removing these different varieties are that all the forms are accompanied with deranged phlegm, and when combined with deranged bile, the cure of the disease is difficult, as those remedies which

diminish bile, will increase phlegm. In like manner, those remedies which decrease the wind, increase the phlegm, therefore the cure is difficult; and on this account the disease produced by wind is dangerous even from the beginning. These twenty kinds of disease are produced by derangements of wind, bile, phlegm, fat, blood, marrow, semen, serum, *(amba)*, lymph, *(bassá)*, the strength of the system *(ozah)*, the flesh and the chyle, with their combinations.

This order of disease is ushered in by the appearance of morbid secretions about the teeth, ears, nose, and eyes. The hands and feet are very hot and burning, and the surface of the skin is shining as if oil had been applied to it. This is accompanied with thirst, and a sweet taste in the mouth. The different varieties of this disease are distinguished from each other by the symptoms of deranged humors, and by the colour of the urine.

If the disease is produced by phlegm, insects approach the urine; the person is languid, his body becomes fat, and there is a discharge of mucus from the nose and mouth, with dyspeptic symptoms, and looseness of the skin. He is always sleepy, with cough, and difficult breathing.

When the disease is produced by bile, there is a severe pain in the scrotum, bladder, and penis,

with fever, dyspepsia, eructations, vomiting, heat of the body, thirst, want of sleep, and yellowness of the excretions. In some cases it is accompanied with jaundice.

When produced by diseased wind, there is pain in the chest, the patient has a desire to eat everything; there is watching, shivering, pain and costiveness, with phlegm and asthma. The following are the characteristic symptoms of the twenty varieties of diseased urine: The first ten are from derangements of the phlegm.

I. In this disease the urine is nearly of the natural colour, without any sediment. It is white, very cold, has no smell, and is like water. 2. The urine is like the juice of sugar-cane in colour and taste. 3. In this variety, the urine becomes thick after standing some time. 4. When the urine is of a white colour, is thin and pure above, and thick below. 5. At the time of micturition, the hair over the body is erect, and the urine has a copious white powder; as if flour had been mixed with it. 6. In this variety the urine is the colour of semen, which sometimes appears mixed with it. In the chronic form this is incurable. 7. When the urine lets fall a hard and small deposit like sand. 8. When there is a copious secretion of urine which is sweet and cold. 9. When there are fre-

quent calls to make urine, which is discharged in small quantities. 10. When the urine is like mucilage, and has long strings of adhesive fibrous matter mixed with it, it is cured by means of astringent decoctions. 11. The bile when deranged, produces six varieties. In one the urine has the colour, taste, and smell of potash; 12, in another the urine is of a blue colour; 13, in one the urine is of a black colour like ink; 14, the urine in another is bitter, and of a yellow colour, like tamarind water, and there is great heat in passing the urine. 15. The urine has the smell of indigested food, and is of the colour of the water of madder. 16. The smell is like that of indigested food; it is hot, saltish to the taste, and of a red colour. 17. The urine in this variety is of a light colour, as if fat were mixed with it; it is discharged frequently. 18. The urine in this form is like the colour of marrow, and appears as if mixed with it; and it is frequently discharged. 19. The urine is dry, astringent, and sweet, to the taste, and has a troubled appearance. 20. In this form of disease there is pain in micturition, and the urine is discharged involuntarily; and it appears mixed with fat.

The unfavourable symptoms of the above varie-

ties of disease are when they are congenital; when the seven forms of diseased wind, bile, and phlegm are present; when accompanied with a great discharge of the humors; when accompanied with large deep-seated abscesses; and when the urine is sweet. This is the *diabetes mellitus*, which was known to the Hindus, and its danger appreciated, before it was known in Europe. All the hereditary and congenital forms of this disease are incurable; and if not properly treated, they generally terminate in sweet urine, which is incurable.

The following forms of morbid urine may be cured: when it is of the natural colour, is neither shining on the surface, nor white; and is of the usual taste, or is bitter and pungent. The following eruptions and abscesses may occur in the course of this disease in joints, and in vital or sensitive parts; as the temples, or where there is much muscle: 1, with a central hollow, with high edges; 2, hot, and in the form of a turtle; 3, hot, while the part appears irregular in its surface, like a prickly pear; 4, the eruption is of a blue colour, and is accompanied with severe pain. This variety appears in the back or abdomen, and is accompanied with a copious secretion of urine; 5, in spots of a red and dark colour;

6, of a small figure, with a central depression of a yellow colour; 7, of a light yellow colour, like the figure of mustard seed; 8, elevated, and surrounded with small eruptions; 9, like a bulbus root, hard and hot; and 10, like an abscess: This form will be considered in another chapter. These different varieties of eruptions may be produced by the derangements of fat without the presence of morbid urine; and they are not observable until they have arrived at their full size, as they do not affect the pulse, &c. When they appear about the anus, breast, head, shoulders, back, and other sensitive or vital parts, if accompanied with bad symptoms, they are dangerous. When boils are severe, and the internal heat is diminished, the physician is to give the case over as desperate. At the termination of the eruption, when there are thirst, cough, sloughing of the flesh, fainting, hiccough, delirium, slight fever, erysipelas in the temples; and when the other sensitive parts are very painful, so that the patient cannot be moved, the case will be fatal. Females are not liable to these diseases, as by the monthly discharge the body and humors are purified.

There are two kinds of morbid urine, one of which is congenital, and the other is produced by

the use of bad food. In the first form the patient becomes weak and thin, and the surface of the body rough. He eats much, and is always thirsty and restless. In the second kind, or that produced by bad food, the patient becomes fat, he eats much, the surface of the body is smooth and oily, and he is always sitting and sleepy, when it is accompanied with deranged phlegm.

In the first form give nourishing food, and in the second light food, with occasional fasting. In both forms the following articles are to be avoided: all kinds of wines, milk, especially curdled milk, oil, ghee, sugar, or sweet cakes, and acid drink. The flesh of domestic or amphibious animals is to be avoided, and the various kinds of fish. The patient is to use good old rice, barley, and flour, he should eat the different kinds of beans and peas, bitter and astringent vegetables, and the flesh of wild animals without fat or ghee. The treatment should be oily purgatives, as castor oil. This is to be followed by the exhibition of emetics. If there is much pain or scalding, give him antiphlogistic remedies, with the juice of emblic myrobalan, tamarinds, and honey. The physician should also exhibit tonics and astringents. The patient should drink sherbets containing honey, liquorice, and an acid fruit, with powdered black-pepper, and ashes of

the dung of camels and asses. When the urine is increased much in quantity the patient should take prolonged exercise; as by walking and riding on horseback, or on elephants. He should also drink different kinds of tinctures, particularly those with preparations of iron.

The following remedy is strongly recommended in Prameha: take of *haredra* (turmeric;) *manjistha* (madder;) *kadamba* (bark of *shimulchhal,*) of each forty ratikas. Boil in a pint of water till reduced to one-fourth. To this add half a tola of powdered alum, and repeat twice a day: an injection of camphor mixture, by means of a syringe is also recommended.

For the cure of *basameha*, use a decoction of the bark of *agnimanta* or *sinsapa*, (a tree,) *kshodrameha* with *katiki*, and betel-nuts. For curing *hastimeha* use a decoction made of *tinduka*, *kapitta*, *sirisa*, *palasa*, *pata*, *murba*, with honey. Another remedy is the ashes of the bones of elephants, horses, asses, and camels.

b. Suppression of Urine, (mutraghata.) The derangements of wind, bile, and phlegm in the bladder produce the thirteen forms of this disease.

Batakundalika. This disease is produced by eating dry articles of food, by retention of the natural discharges; by which the wind is deranged

in the bladder, which mixes with the urine, producing pain, and they turn round in a circle, and the urine is retained, or it is discharged in drops. The person is very fearful in this disease.

Astila. When the wind is deranged between the rectum and bladder it forms a large ball like a stone (prostrate gland?) and produces suppression of the urine, fæces, and wind; and is accompanied with swelling in the bladder and much pain. This disease is also called *batastila.*

Batabasti. When an ignorant person stops the evacuation of the urine or dejections, which deranges the wind, stops up the neck of the bladder, and produces retention. This disease produces pain in the pelvis, and in the sides; and is cured with much difficulty.

When the urine of a person flows for some time, and then stops; it produces the disease called *matratita,* or retention. When the urine is only discharged in small quantities; or when it is retained by such causes as produced the same effect as the retention of wind, which is situated near the rectum, it causes a swelling of the abdomen, with much pain under the umbilicus. This disease is called *mutrajathara.* When the urine is stopped by impediments in the urethra, near the glans penis or elsewhere; or when expelled with

great force mixed with blood, sometimes with much pain, in other cases with no pain, this variety is called *mutrasanga.* When the body is dried up by the free use of stimulants, and dry food, and by great fatigue, the wind and bile are deranged in the bladder, and the urine, which becomes scanty, is of a black colour, and produces severe pain and heat. This disease is called *mutrakia.* When there is a small hard round ball at the neck of the bladder, accompanied with much pain, it may prevent the passage of the urine, and produce the symptoms of stone; it is called *mutragrinti.* When at the proper time urine is not discharged, and the patient has connection with a woman, the semen is discharged with the urine, sometimes before, and in other cases after the urine. This urine is of a white colour, as if mixed with chalk, and the disease is called *mutrasukra.*

When violent exercise is taken, as in fighting, or travelling in great heat, the bile is deranged in the bladder with wind, which passes, mixed with urine, and produces a burning pain in the bladder, penis, and anus. The urine becomes yellow, as if mixed with tamarinds or blood; is discharged with difficulty, and is called *unabata.* When deranged wind produces this disease, it is accom-

panied with great pain and heat on its being discharged. When the urine is yellow from bile, it causes a burning pain in the part, and there is much sediment.

When phlegm produces the disease, the urine is white, like the powder of shells, and is of different consistence; this variety is called *mutrakasada.*

The following pills are recommended in this disease: Take of *Gundhat* sulphur, *tobabashma* oxide of iron, of each one tola; mix, and divide into sixteen equal pills, with the assistance of cocoa-nut powder and nitre. These pills relieve the burning pain in passing the urine, which is secreted in more abundance than in health. An injection of camphor mixture will also be found of use.

When the body is very dry and weak, and the fæces are collected for some time, they may be evacuated with the urine, which will have the smell of fæces, and be discharged with difficulty and pain. This is most probably the recto-vaginal fistula, which is only described in Europe in modern books. It is called *bierbigata.*

*c. Strangury (Mutrakrichra).** This disease is produced by wrestling, riding on horseback very quickly, or other violent kinds of exercise, hot

* From *mutra*, urine, and *krichra*, slow and painful.

spices, dry food, wines, the flesh of the buffalo, of the rhinoceros, &c., or other indigestible food. Another cause is eating too frequently, or it may be produced by bad digestion.

There are eight forms of this disease. The derangements of wind, bile, and phlegm separately or combined, when they occur in the bladder, produce this and other diseases in the urinary passages, when the urine is discharged with pain. This disease is also produced by injuries of the parts, by constipation of the bowels, and by calculi.

1. Deranged wind causes severe pain in the pelvis, in the testicles, and in the penis. The patient has a frequent desire for making water, and the urine passes in drops accompanied with pain. 2. When the bile of the part is deranged, the urine is of a yellow or red colour; there is much scalding or burning pain in the passages; and the urine is discharged in small quantities frequently, accompanied with heat and uneasiness. 3. When phlegm is deranged, the pelvis, bladder, urinary passages, and testicles feel heavy; they are swollen, and the urine is cold, shining like oil, and soon dries up. 4. When the wind, bile, and phlegm are deranged, the separate symptoms of each variety appear in the same person, and the disease is

cured with difficulty. 5. When the parts are injured by external violence, the disease is accompanied with much pain, followed by other symptoms of deranged wind. 6. When the bowels are very costive, from wind being deranged, it is accompanied with much swelling and pain in the abdomen, with difficulty in micturition. 7. This variety is produced by calculi, and is accompanied with much pain, and when such a person runs quickly or jumps, is much fatigued, or is fasting, or the part is injured, the bladder rises out of the pelvis of a round form, is large like the gravid uterus, and moves from side to side, and the urine is very hot, and passes in drops. If the swelling is pressed above the pubis, the urine passes easily, and in a continued stream. When the person cannot move, it is a severe and dangerous disease. When bile produces the disease it is incurable; when phlegm, it may be cured, especially if it continues to be discharged; except when the bladder is round above the pelvis, with thirst, insensibility, and noisy breathing, when it is incurable.

Different kinds of diuretics, akalies, honey, wines, fomentations and injections, &c., are recommended in this disease; with the seeds of cucumbers bruised, and taken with salt and

vinegar, or wine with salt, rum with animal flesh and honey, saffron with water and honey, different sherbets with acid fruits, especially pomegranate, the fresh juice of the dung of asses, with a vegetable decoction. Cold water is to be given for drink, with the juice of grapes, saltpetre, and other salts in water, and the body is to be anointed with oil, fomentations, and purgatives.

8. When the semen is affected by deranged humours, and carried into the passage of the urine, it is discharged with much difficulty and pain in the penis and bladder.

d. Urinary Calculi and Gravel, (Asmira, Asikari), are common in most parts of Hindostan, probably from weak digestion, from the hot climate, and from the indigestible nature of their food. According to the Hindus, gravel and stone are produced by the same causes, and exhibit the same symptoms. When the gravel is dried up with bile and wind, it may be discharged with the urine, or retained in the bladder to form a calculus.

The general symptoms of gravel are shivering, severe pain in the abdomen and sides, loss of appetite, and fainting, followed by fits of strangury, the pain being only mitigated when the urine is not discharged. The suffering is very acute when the calculus enters the urethra.

When wind, bile, and phlegm are deranged they produce different forms of calculi; and another kind is produced from semen. Phlegm is the chief cause of the disease in all its different forms. This disease is produced in those who live on hard indigestible food, and do not use evacuating remedies, by which the phlegm is deranged, and mixing with the urine passes into the bladder and forms the stone. Others suppose that the calculi are produced by collections of the impurities of the urine which sink down and form, by being dried with the internal fire, calculi in the bladder. Others suppose they are formed as hailstones are formed in the sky.

This disease is ushered in by pain in the bladder, especially in its neck, in the scrotum, and penis. In some cases languor and fever are present, and the urine has the smell of goat's urine. When formed, the pain is in the umbilicus, bladder, perineum, and penis, particularly during micturition. The urine does not pass in a stream, but in drops; it also stops suddenly. It is sometimes mixed with blood; in other cases it is clear or mixed with gravel. The pain is increased by walking, jumping, and riding.

Four different forms of this disease are observed; the peculiarities of each are as follows: when

produced by *wind*, it is always accompanied with deranged phlegm, which forms the stone. This stops near the neck of the bladder, and suddenly impedes the flow of the urine, accompanied with much pain. To assist the evacuation of the urine the patient presses the parts, particularly the umbilicus, penis, and anus. The calculi are black, rough, and unequal; and are surrounded with elevations like the *kadam*.

Bile. In this case the bile being mixed with deranged phlegm, become a thick mass, increases in size, passes to the neck of the bladder, and prevents the passage of the urine. In the bladder there is a burning pain, as if produced by the application of heat, and the wind from the anus is hot. The stone is yellow and sometimes red, black, or grayish, and in form resembles the stone of the marking-nut.

Phlegm. A person who eats much of those articles of diet which produce diseases of phlegm, is liable to have this form of stone. In such cases the phlegm becomes thick, and a stone is formed in the bladder. It produces a sudden stopage to the flow of the urine, with severe pain in the bladder, and the person feels as if beaten. The bladder is heavy and cool, and the stone is white, shining, large, like the appearance of a hen's egg.

The fourth kind of stone is produced by excesses in venery, or by the stoppage of semen, which collects between the scrotum and penis, where it dries, and stops the passage of urine. This produces pain in the bladder and scrotum, and a difficulty in micturition. In such cases the scrotum sometimes swells.

The three first forms frequently attack children and old people, from sleeping during the day, and using improper food and sweetmeats. The stone is easily extracted in the young, as it is prominent, and the parts are small. In old people the disease is produced by derangement of wind, bile, and phlegm.

The dangerous symptoms of urinary calculi, are debility, discoloration of the skin, pain in the side of the abdomen, disrelish for food, and burning sensation in the bladder, penis, and rectum. In some patients the urine is yellowish, in other patients red, with a difficulty in micturition, pain in the chest, umbilicus, and scrotum, and vomiting.

When stone is threatened, ghee and other like substances are to be used, and will prevent its formation; which is of importance, as it is a dangerous disease, like poison, or lightning. When recent it may be cured by medicines; but when of long standing an operation is required.

In the beginning give different decoctions and preparations of medicines, which dissolve the calculus. A diuretic mixture made by the decoction of the root of sugar-cane, the roots of *kusha*, (a species of grass), *kasha*, (saccharum spontaneum,) *shara*, (saccharum sarah,) and *ushara*, (khuskhus.) This is mixed with sugar and taken frequently. When bile is deranged give purgatives, with the juice of sugar-cane, grapes, and milk. Barley water, and a decoction of *sarasada* or *barnada* prepared with oil, are to be given as drink.

When phlegm is much deranged, prepare oil with the above decoctions. When the three humors are deranged, the three kinds of medicines above stated are to be used conjointly as a mixture. When produced by external injuries employ the usual treatment for such injuries. In all these forms fomentations and warm bathing should be employed.

When bile is deranged, different decoctions are used. The same is observed when the calculus is produced by deranged phlegm. In all forms of this disease diuretics are to be used, such as the following: Take of the bark of *baruna*, (capparis trifoliata), *shunthi*, (dry ginger), *gokshun*, (solanum jaquini), of each fifteen ratika. Boil in a pint of water till it is reduced one-fourth. To this add

one-fourth tola of nitre and sugar. Let it be taken night and morning. If the disease be not cured by the above, an operation is to be performed, which is difficult and dangerous.* It is consequently proper that the sanction of the rajah be obtained to its performance.

Order 2. *Diseases of the organs of generation.* These diseases are of the *scrotum*, *penis*, and *vagina*.

1. *Diseases of the Scrotum* form seven varieties, produced by diseased wind, bile, phlegm, blood, fat, and urine, by descent of the intestine, and itchy eruptions on the scrotum. Any of these derangements of the humors may produce a swelling of the scrotum or testicle, but the descent of the bowel only causes a swelling of the scrotum. The general symptoms of these diseases are pains in the loins, pelvic region, and penis, followed by swelling of the scrotum, and in all these varieties riding on horseback, sexual connexion, sedentary employment, and indigestible food are to be avoided.

a. When the swelling is produced by deranged *wind*, the scrotum is extended as a bag of air; the surface is rough, and the peculiar pain produced by wind is felt in the scrotum. This variety is to be treated by anointing the body with oil, and

* See vol. i., page 382, *et sequ.*

administering it internally. The scrotum should be fomented, and a purgative of castor-oil and milk given. This treatment may require to be followed for a month, during which the patient's diet should be soup made of wild animals, rice, and occasional clysters. Should the swelling not decrease by these means, poultices should be applied, and when pus has formed, it should be discharged, avoiding the raphe of the scrotum. The swelling should then be treated as a common abscess.

b. When produced by diseased *bile*, the swelling is red like a ripe red fig, accompanied with a burning pain, and considerable fever. In this form the part does not usually suppurate, and is to be treated as a swelling produced by bile. Should it suppurate, evacuate the pus, and apply honey and ghee to the part. The healing action of the part will be promoted by poultices.

c. When the swelling of the scrotum is produced by *phlegm*, it is hard, its surface is cool and itchy, and it is accompanied with pain or fever; for curing which, apply pressure, with stimulants mixed with wine. If it has suppurated, open, and keep it empty.

d. When produced by diseased blood, the swelling is covered with dark coloured tubercles, and is

accompanied with the symptoms of diseased bile. It is to be treated by the application of leeches, and purgatives are to be administered with honey and sugar; after which the disease is to be treated as a variety of disease from bile.

e Fat produces a form of this disease, characterised by a soft swelling, which is shining, itchy, with little pain. It assumes a rough tuberculated appearance like the fruit of the palm tree, and in other patients like that produced by phlegm. In treating this form, use fomentations, and apply such poultices to the part as will absorb the fat, such as *surosadi*, which is to be mixed with wine, and applied hot to the part. Surround the upper part of the scrotum with a tight ligature, and remove the lower part and side of the scrotum with the knife, taking care to preserve the raphe and the testes. A mixture of the sulphate of iron and rock-salt is then applied to the wound, which is to be covered with a bandage. When the wound is clean, apply prepared oil to heal it.

f. Hydrocele. This variety of scrotal disease is produced by a suppression of urine, and the yellowish serum collects round the testes and external covering, where it moves about like a bag of water. The same bandage is to be applied as recommended in the last variety; and when

distended, a trocar is to be introduced at the lower side of the raphe. Leave the canula in the wound, and when the fluid is discharged, apply a tight bandage over the scrotum.

g. Hernia, or descent of the intestine from the abdomen. It is produced by carrying a heavy weight, by fighting with a strong person, by jumping, or the like violent exercise. By such causes the *wind* is deranged in the part, which propels the intestine downwards, into the groin; and if not treated for some days it descends lower, and produces a swelling of the scrotum. The tumor is of an oval figure, and if pressed upwards, the gut generally passes into the abdomen. It is supposed to be only curable when recent, and situated in the groin. In this form it is to be treated as when *wind* produces such tumors, by fomentations and oleaginous purgatives. When the gut has been returned into the abdomen the groin is to be cicatrized, by means of a half-moon cautery, over the neck of the tumor, to promote the adhesive inflammation, by which an obstruction is made to the descent of the gut.

Besides the above varieties of the swelling of the scrotum there is a peculiarly distressing itching in the scrotum, (prurigo scroti), which is a common and often most troublesome complaint; pro-

duced by want of cleanliness, which irritates, and produces an eruption in the part. This sometimes degenerates into sores. The treatment consists in cleaning the part, and applying an ointment composed of wax, burned mustard seed, and another seed named *satrak*. These are mixed, strained, and applied to the part.

2. *Diseases of the Genital Organs.* These consist of *sores*, inflammation of the penis, phimosis, and paraphimosis, and stricture of the urethra.

Sores. These sores are supposed to be produced by local causes; such as mechanical injuries, want of cleanliness, impure connexion, washing with dirty water, stimulants applied to enlarge the size of the penis, &c. Five varieties of sores are described, which are distinguished by their colour and secretions.

1. From diseased wind, it is characterised by the dark colour of the pustule, and by the lancinating pain, and white discharge; for which, ghee and oleaginous applications are applied locally; and perspiration promoted by the usual means. Should the local inflammation be considerable, a vein is to be opened near the part, or leeches applied, so as to remove any unhealthy humor; then foment, and apply poultices, with the powder of the castor-oil seed. For a like

purpose, emetics and purgatives should be administered; or clysters substituted, when the patient is weak.

2. From diseased bile, the sore is distinguished by the redness of the pustule, by the burning pain, and bloody discharge from the part. In this variety fomentations of milk and water, sugar and water, or honey and water, and poultices made of various minerals are recommended.

3. *Gonorrhœa (shleshmika).* In this variety the sore is larger, accompanied with an itching sensation, and a thick white discharge. As this form of disease is supposed to be produced by a deranged state of the lymph in the part, it is treated by fomentations, with a decoction of *sala*, (sal tree); *ashwakarna*, (a kind of sala tree); and *dhaba*, (grislea tomentosa). In other cases these barks are mixed with wine and mustard oil, and applied as a poultice.

4. There is a more serious and complicated form of disease, from deranged wind, bile, and phlegm; which is considered incurable, and should be treated by palliating the symptoms as they arise.

5. *Accidental Injuries of the Organs of Generation.* In this disease the treatment must be varied according to the severity of the symptoms. When the inflammation is high, bleeding and other

antiphlogistic remedies must be employed, with the assistance of fomentations and poultices. Emetics and purgatives should likewise be used as required, and washing the sores with astringent decoctions. Great attention is required when suppuration and sloughing of the parts occur. In the former case the abscess is to be opened as soon as discovered; and then oil (*til*), honey, and clarified butter are applied to the part. A decoction of the leaves of oleander (*karabera*), jasmin (*jate*), and cassia fistula (*arakbada*), is then to be used.

Various mixtures, in which the sulphate of copper, zinc, &c., are combined with honey, are applied to these sores on the genitals, with various astringent powders and decoctions are recommended. In the more aggravated form, when the three humors are deranged, the treatment followed for the cure of foul ulcers is recommended. When the parts slough, or gangrene has taken place, destroying a part or the whole of the penis, the actual cautery should be used, after the dead parts have been removed. The sore is then dressed with honey and ghee; and should it generate worms, the case is considered incurable.

The Hindu medical authorities, Charaka and Susruta, state that such a serious disease should

neither be treated by an ignorant person, nor should the patient indulge in sexual connexions, as he will in that case die by the irritative fever which accompanies it.

Another local disease of the genitals is *warts*, or excrescences, particularly round the corona glandis, and the vagina. They appear crop after crop, and resemble the irregularities of the cockscomb. They are without pain, and are cured with difficulty. In this description of the diseases of the genitals, no secondary symptoms of syphilis are mentioned; and the local sores described by Charaka and Susruta are confined to the primary forms of the simple diseases of the part; being anterior, as will be stated in another part of this work, to the introduction of syphilitic poison into Asia, or indeed into Europe.

Besides the organic diseases of the organs of generation, the means of promoting the increase of the human race (*bajîkarana*) forms the eighth section of the Ayur-veda. This has been called an illusory research; but it is not so, and deserves the consideration of the philosophic physician. In his researches he will find that the different parts of the wild cotton tree have remarkable aphrodisiac effects, and are employed as such in many parts of Asia.

Diseases of the Penis. Inflammation of this organ is common in Asia, from the pernicious habit of applying stimulants to enlarge it. There are eighteen varieties described of this disease. Small pimples, like mustard seed, form round the penis, produced by the presence of a kind of insect, which is sometimes applied to the organ, with the above intention. The other forms of inflammation are produced by the application of other stimulants, which cause inflammation of a chronic, or acute form. Sometimes abscesses and even mortification of the part occur, so as even to destroy the part. For the cure of these inflammations, you must strengthen the constitution, and purify the blood, by administering astringent decoctions and oils, after the application of leeches, fomentations, and poultices. When matter forms it is to be evacuated, and the abscess cleaned with tonic decoctions; and the ulcers healed by the application of prepared oil. When sloughing takes place, it is to be treated as in other parts. In all these forms of disease, the antiphlogistic treatment is to be employed, particularly purgatives, and the local application of astringent and healing powders.

c. Phimosis. This disease is produced by pressure, or external injuries, when the prepuce is

swollen by the diseased wind, and covers the glans. When it remains swollen, hard, and very painful, the inflammation sometimes passes to suppuration.

d. Paraphimosis. When the prepuce is injured and forced back, it remains there, followed by much swelling and pain.

For the cure of phimosis ghee is applied to the part, with warm fomentations followed by poultices, which are to be continued. Ghee is again to be applied, and the skin is then to be pulled gently backward. When it is in its natural position apply fomentations, administer oleaginous food, with animal broths, and ghee. The same treatment is to be followed in paraphimosis, only pull the prepuce forward instead of backward.

e. Stricture, or a diminution of the urethra. In some cases this is produced by an adhesion of the prepuce to the glans, impeding the passage of the urine, which in some cases only passes in drops.

In *strictures*, introduce a metallic, wooden, or gumelastic canula, after the parts have been rubbed with oil. Then the size of the canula is to be increased every third day, so as to enlarge the size of the passage of the urethra. Should the

prepuce adhere to the glans, divide them, and heal the wound in the ordinary way.

Diseases of the Female Organs of Generation. When the menses occur every month, continue for five days, without pain or burning, is of the natural colour, and is neither too copious, nor too scanty, it is advantageous to health. When the discharge is red, like the blood of a hare, or like a decoction of lac, and does not permanently discolour cloth when it falls upon it, and appears as if mixed with water, it is healthy. There are twenty forms of these diseases, which are produced by using bad food, or taking improper exercise; by diseased menses, or semen; and in other cases without any apparent cause.

1. When the menses are discharged with great pain, and are frothy. 2. Difficult menstruation, where the menses are stopped, by the accumulation of unhealthy humors in the part. 3. Continued pain in the organs. 4. Severe pain during connexion. 5. When the vagina is contracted and rough, accompanied with pain. In these five diseases, *wind* is locally deranged, the parts are hard and swollen, and subject to the seven various degrees of pain produced by diseased wind.

6. When the menses are discharged very hot; or when there is an unusual discharge of a red

colour from the vagina, accompanied with pain, and followed by lassitude, &c., this disease is produced by sleeping during the day, bad food, or milk, or any improper mixture of food, by the use of ardent spirits, or hot food, or eating frequently without being hungry; by grief, by abortion, by severe exercise, particularly riding and walking, or carrying heavy weights, and by external injuries. These causes produce the disease, which is accompanied with fever, and pain over the lower half of the body. After a time the patient becomes weak, is affected with giddiness, fainting, thirst, great heat, delirium, jaundice, and drowsiness.

When *phlegm* is particularly deranged in this disease, the discharge is whitish, or of the colour of water in which straw has been immersed, is mucilaginous, and has the smell of the water in which flesh had been steeped. When *bile* is particularly deranged, the discharge is sudden, and is of a yellow or reddish blue or black colour. It is hot, and the other symptoms of diseased bile appear. When *wind* is particularly affected, the discharge is of a red colour, like the washings of flesh, is frothy, is in smaller quantities than in the last variety, and is accompanied with more pain. When the three humors are deranged, producing

this disease, the discharge is of the colour of honey mixed with ghee, or of a yellow colour like marrow, and has a fœtid smell. In this form a cure is not to be expected, and the practitioner should refuse to attend such a patient. The unfavourable symptoms are when the disease has continued long, is accompanied with a copious discharge, with fever, great thirst, and heat followed by great debility.

7. When semen is discharged with the menses. 8. When the blood is discharged, and the parts are diseased, so that it prevents easy delivery. 9. When the infant has died, or abortion has taken place, with a great discharge of blood. In all these cases bile is much diseased, and there is an occasional discharge of bloody fluid, accompanied with fever. 10. When bile itself is deranged, there is much heat of the part, which suppurates and is accompanied with fever. These five last diseases have the symptoms of bile. The following are the forms produced by deranged phlegm. 11. When the woman has no pleasure in the embraces of her husband. 12. When phlegm and blood are deranged in the vagina, small granulations form, like the grains of rice, from deranged phlegm and blood. 13. When the semen of the male is more copious than that of the female. 14. When

the male semen does not enter the uterus. 15. Is produced by diseased phlegm with itchiness and coldness, and the part appears as if covered with oil. 16. In this variety the menses are not discharged, the breasts do not swell, and the parts are hard, and rough like a file. 17. When the parts are injured. 18. When the vagina is very large; or 19, very small; 20, and the different varieties of pain, &c., are produced by the derangement of the three humors in the part. The five last forms of these diseases are cured with difficulty.

The *treatment* of these diseases will vary according to the humor diseased. When the *wind* is diseased, apply warm fomentations, such as steam baths, &c., and poultices; use also injections of oleaginous and other medicines heated, which cure diseased wind; and keep a piece of cloth soaked in oil in the vagina. When *bile* is deranged, with much bearing down and inflammation, use cold lotions. If there is a bad smell, use the decoctions of astringent barks. When *phlegm* is deranged, take the juice of garlic every morning, with food made of rice and milk, and apply different tinctures to the part, as recommended under the head of midwifery.

In dys-menorrhœa the patient should live on

nourishing food, fish, *máskaláí*, sessamum seeds, curdled milk, and drink cow's urine, whey, and wine. The pubes should be well rubbed with oil and ghee, and the vagina kept distended by a roller of cloth. The treatment of menorrhagia should resemble that of hæmorrhage, such as the application of cold and astringent medicines, avoiding fatigue, and living on cooling and simple food.

Utero-Vaginal Tumors. These diseases are produced by the person sleeping during the day, by indulging an angry disposition, and by great fatigue. They may also arise from mechanical injuries of the part. These tumors are like the fruit of the *Nikuka tree*, a kind of bread fruit tree *(artocarpus lacucha, madar)*. When *wind* produces the disease, the tumor is dry, and is of a dirty or yellowish colour, and has furrows on its surface. When diseased *bile* produces the tumor it is very hot and red, accompanied with burning pain and fever; When *phlegm* produces the tumor, it is like the colour of the Indigo flower, and is very itchy; and when wind, bile, and phlegm are diseased, all the separate symptoms are present. When three are so diseased in one part, it is incurable, and when produced by wind or by phlegm, &c., it is cured with difficulty.

For the cure of these tumors use the flesh of shell-fish, and the pulp of tamarinds, rub them together, and apply the mixture to the tumor. A paste made with the flowers of *ghosha* applied to the part, will be found of use, but the knife is the best remedy.

Impotence. There are six kinds of impotency: 1st, it may be produced by dejection of the mind, or connexion with a distasteful woman. 2nd, by eating too dry and pungent food, as black-pepper, capsicum, &c., or too much acid, salt, or stimulating food, by which the secretion of semen is diminished. 3rd, by excessive venery, and eating little food. 4th, from old diseases of the organs of generation, or injuries or diseases of the vital parts. 5th, is the congenital variety; and the 6th variety caused by avoiding sexual indulgences.

The fourth and fifth kinds are incurable. The other four kinds may be treated. For this purpose different kinds of nourishing food and drink are to be used; the patient is to live in a good house, indulge in good beds, in music, in the society of beautiful women, in wines, and in perfumes, as all these tend to remove sterility. The medicines to be used are as follows: Take of the powder of *bidari* or of *anuloka* mixed with honey and ghee; and eat the testicles of goats roasted

and prepared with salt, ghee, and long-pepper. The preparations of *maskalai* and sugar, barley, and wheat are also of use. The eggs of crabs and of crocodiles, or of turtles properly cooked will be of use. Flour, prepared with ghee and milk, and rubbed on the feet with oil, mixed with crocodiles eggs; the flesh of rats and frogs, and the eggs of sparrows are likewise recommended; and the patient is to drink fresh milk with sugar and honey.

CLASS IX.

DISEASES OF THE EXTREMITIES.

The diseases of the upper extremities are few, and of little importance, compared to those of the lower extremities; to which the following remarks are principally confined. These diseases are swellings of the extremities, diseases of the nails, of the soles of the feet, and ulcers of the axilla, and groin. The other diseases of the extremities have been already considered.

Large Abscesses are sometimes formed under the fascia of the thigh by cold, hot, or very liquid or dry food, heavy oleaginous or indigestible food, or other articles of the like kind, fatigue, grief,

agitation, sleeping during the day, and watching at night. By these means the wind, phlegm, and fat are deranged and mixed with bile, which accumulates in the external parts of the thigh, becomes senseless like a dead part, and is very painful. This disease produces lowness of spirits, pain over the body, drowsiness, and chilliness. The thigh cannot be moved, and it is raised with difficulty, as if asleep. Before the accumulation of humors in the thigh, the person feels sleepy, he is in low spirits, and there is chilliness, followed by fever, loss of appetite, and vomiting. When the pain is rheumatic, the part should be rubbed with oleaginous medicines. As the disease increases, it affects the feet and prevents the person walking, accompanied with much pain, swelling, and inflammation, followed by numbness, and the leg feels as if it was broken. When there is severe lancinating pain, inflammation, and shivering, the patient will die. When these symptoms are absent, or the disease recent, the patient may be cured by judicious treatment. In these cases give such medicines as diminish phlegm, and do not increase bile. Avoid oleaginous substances, give emetics and purgatives, and use hot applications to the part. Mustard and coringo seeds, honey, and the earth of the white-ant's nests are to

be mixed together, and applied to the part. Give at the same time long-pepper and ginger; these are to be mixed with the urine of the cow. This medicine may be varied thus: take of castor-oil and *guguli* internally, or a decoction of *dasamula* with cow's urine.

Elephantiasis (shlipada.) The short and indistinct account of this disease in the ancient Hindu writers, seems to be intended to suit the writer's own peculiar theory. Elephantiasis is common in low damp situations, and is so peculiar, that we should have expected something more than a short account of the leading symptoms. It is merely stated that the patient's groin first swells, and becomes very painful, with fever. The swelling then slowly descends to the foot, producing this disease. In other MSS. it is stated that the same disease may occur in the hands, ears, eye-lids, nose, lips, and penis. When it occurs in the groin, and descends to the leg and foot, or when situated in the hand, it is produced by bad flesh and fat, and the parts affected become hard and rough.

When *wind* produces this disease the swelling is of a black colour, rough, dry, with cracks and small sores. This form is very painful, and occurs suddenly, with much fever. When produced by diseased *bile* it is of a yellowish colour, hot, soft,

and accompanied with fever. When caused by diseased *phlegm*, the skin is shining, of a white or gray colour, the part is very heavy, hard, fixed to one place, and has the appearance of a white ant's hill, of an irregular pointed appearance. This form is difficult to cure after it has been present a year; when very large, when it discharges continually, or is itchy, and when all the above symptoms are present, this indicates that wind, bile, and phlegm are diseased. Elephantiasis is most frequent in those countries where there is much stagnant water, and in cold damp situations in Bengal; such as Rungpore, Furridpore, &c. In the above description, the marked accessions and remissions of fever are not mentioned; but it is stated that damp and cold situations produce this disease, that it attacks different parts of the body, and that it is incurable after it has remained upwards of a year, or is very large. It is also stated that it is incurable, when the skin is much affected, as indicated by the continual discharge, the itchy tubercles or painful nature of the swelling, and its discolouration.

When *wind* is deranged in the part, oleaginous substances are to be applied to promote perspiration. Four fingers breadth above the ankle joint a vein is to be opened, and some blood is to

be removed from the part. If the person be strong, purgatives and enemas are given, which promotes the discharge of urine; and castor-oil in cow's urine is given for a month, with rice and milk, and the infusion of dry ginger. The actual cautery may also be applied round the leg near its middle. When *bile* produces the disease, open a vein below the ankle joint, and use antiphlogistic and other medicines to cure the diseased bile. The treatment in erysipelas should also be followed. When caused by diseased *phlegm*, open a vein of the great toe, give astringent decoctions with honey, such as myrobalan with cow's urine; and rub the swelled part with a mixture of michelia chumpaka, menispermum glabrum, verbesina prostrata, plumbago zeylanica, dry ginger, and laurus cinnamomum, prepared with the urine of a cow. Give also mustard-oil internally; and impure potash obtained from the ashes of different plants.

Fasting is enjoined for the cure of elephantiasis, and medicines are to be rubbed over the part; as *dhatura* root, castor-oil plant root, *inchur* root, *sajina* bark, vitex trifolia, *(punarnava)* and mustard seed. Mix them with water, or *sajina* juice, and rub them over the part; which will cure even old cases. It thus appears that perspiration, the local discharge of blood, and purges, are the remedies recommended for this disease.

Slight diseases of the Extremities. Painful swellings in the groin and axilla are produced by bile and phlegm. Deep-seated swellings, which produce much heat, inflammation, and fever, like fire, kill after seven or twelve days, or after a fortnight.

When the *nails* are affected with inflammation round their edges, it is produced by derangements of the bile, wind, injuries, &c. The part which is connected to the flesh, especially at its edges, swells, becomes very painful, and then ulcerates, particularly at its angles. When the nails become dry, rough, and discoloured, the disease is called *kulina.*

Should the soles of the feet be injured by some external cause, as by thorns, or the like, it produces much pain, and a hard indolent swelling, like the stones of plumbs form, accompanied with a considerable discharge: it is cured with difficulty. The space between the toes sometimes ulcerates, and is very troublesome.

Sometimes ulcers form near the axilla or groin; which become hard, red, and sinuous; and in some cases, when the deep-seated parts are affected and opened, frothy matter is discharged, like a mixture of honey and ghee; the parts become dry, irregular, and discharge fœtid matter of different colours, mixed with blood. Sometimes the hem-

morrhage from aneurismal tumors is sudden and great.

CLASS X.

TRIVIAL DISEASES (*Locales.*)

The Hindu physicians found trivial diseases of the body difficult to arrange in their classification, and collected them under a separate head; which consists of forty-four varieties of disease.

1. Small tuberculous eruptions of the form and appearance of peas occur in children four days after birth. The following plaster is recommended by Susruta. Take of burnt shells, alluvial earth, and nitre, of each half a tola; these are made into a paste, with the juice of neem bark, and then heated and applied to the diseased parts. The old formula of haritaki and sugar, powdered well, and given to the infant in small quantities of water as a vehicle; or of oil of sessamum one chetack, and half a tola of turmeric and melia azadiracta: These are exposed for five minutes to the fire, and then strained through a cloth. When cool, it is applied to the affected parts of the child. Leeches are sometimes recommended by the same author to be applied to the

more advanced children, if urgently required; and water heated in the sun is employed as a bath for the child.

2. Hard fleshy eruptions, like the grains of barley, are produced by diseased phlegm and wind, and are treated by alkalies, such as caustic soda or potash. These are applied over the eruptions with a view to soften and corrode them. After this, the following application is employed to cure the sores: Take a quarter of a tola each of mercury, sulphur, butter, and turmeric to form an ointment. According to Harita Muni, the actual cautery should be employed to these eruptions, to convert them into ulcers, to be treated accordingly.

3. For round elevated tumors containing matter, produced by diseased phlegm and wind, according to Susruta, the following paste is used to discuss them: Take of pinus devadaræ, red sulphuret of arsenic, and putchuck root, of each a quarter tola, make into a paste, and apply it to the tumors warm. When these tumors suppurate, they are to be opened, like abscesses, and the following oil is to be employed to heal the sore: Take four chetacks of oil of sessamum, and one tola each of vitex trifolia, orris root, red oxide of lead, and red sulphuret of arsenic, and one seer

of water. These are to be boiled until the water is evaporated; then filter, and apply the oil to the sores. Purgatives, emetics, and general bleeding are also recommended by Susruta for the cure of this disease.

4. Small round boils, hot and painful, resembling the ripe fig, is produced by diseased bile. According to Susruta, these eruptions are to be opened, and a warm poultice composed of half a tola of powdered neem leaves and turmeric are to be applied four or five times daily.

5. Five or six tumors (boils), of the shape of turtles, produced by diseased wind and phlegm, for which Susruta recommends the following application to discuss these humors. In the first stage of the disease take bruised onions, heated and applied to the parts by means of a piece of cloth; but when the disease has advanced beyond the first stage, Charaka recommends to open them by a lancet, and administer the following application: Take four chetacks of oil of sessamum, and one tola of plumbago, (*abrus precatories*), and myrobalan, (*achy-rathesaspera*), and four chetacks of cow's urine. These are boiled until the urine is evaporated.

6. Tumors in the soles of the feet and palms of the hands, or in a joint, in the neck, axilla, and

other parts, of the nature of carbuncles, which increase by degrees like the bites of white ants, are surrounded with painful and itchy ulcers, and are accompanied with a discharge. They are produced by deranged wind, bile, and phlegm, and improper food. There are several elevated mouths from which blood and pus are discharged. They sometimes cease at one part and increase at another. These tumors should first be opened, as recommended by Charaka, and the following application used: Take half a tola of burnt shells and butter, and make them into a paste. After the above treatment the following oil is used: Take eight chetacks of oil of sessamum, and one tola each of the red sulphuret of arsenic, cardamum seeds, (*aquilaria*), red sandal, jasmine, and *tagar padika*. These medicines are first bruised and boiled in two seers of water, until the water is evaporated. Leeches and purgative medicines are also administered.

7. Tumors surrounded by eruptions of small pustules, like the inside of a water-lily, are produced by diseased bile and wind. According to Susruta the following purgative medicine is to be used. Take a quarter tola of croton polyandrum, and one-eighth tola of the kernel of the seeds of sweet pumpkin, and of nitre. These are well

mixed up, and given in water early in the morning. The following poultices are also applied. Take one-half tola of liquorice, and one-quarter tola of rock-salt, and of red sulphuret of arsenic; make them into a poultice, and renew it three times a-day.

8. Painful red elevations surrounded by small eruptions of pustules, with many openings, produced from deranged wind and bile. According to Charaka, the following plaster is used with a view to discuss the tumors. Take one-half tola of hemedismus Indicus, a sort of pea (*masuri*), and opium. These are heated over a fire, and applied three times a-day for three days. To promote suppuration, the following paste is recommended by the same author: A sort of acid fruit, amla-betas, one-quarter tola, oxalis corniculata (amlika,) jabaphal, one-quarter tola. These are mixed up and heated to the consistence of a poultice, which is applied three times daily. When these tumors suppurate, open them, and treat them in the usual manner.

9. A hard shining swelling sometimes forms below the ear, or in the articulation of the lower jaw, produced by diseased wind and phlegm. According to Chikitsa Darpan, the following paste should be used: Take one tola of dry

pumpkin shell *(tumlibhasma)* and half a tola of lime; make them into a paste with water, and apply it over the part, with a view to discuss the tumor. If the above medicine produce no good effect, then leeches are to be applied, followed by a blister composed of one tola of croton seed, and enough of castor-oil to make it into a paste.

10. Another disease is an eruption in the inside of the external ear, which suppurates. This should be opened by a curved knife, followed by an injection of the juice of nimb leaves and apamarga leaves (*achyranthes.*) A medicinal oil is also recommended to be dropped into the ear.

11. A slight swelling or boil spreads rapidly without passing to suppuration; it is hot, and is accompanied with strong inflammatory fever. According to Charaka, the following paste is used: Take one tola of ushera *(khaskhas trichosanthes)*, disica and clarified butter. These are made into a paste and applied to the part. To prevent the accompanying fever the following is used: Take of coriander seeds, (*melia azadiracta,*) cyperus rotundus, hibiscus fortuosus, 32 ratika of each; boil in a pint of water, until reduced to a quarter, strain, and mix 3 grains of camphor with it for a dose, which is to be repeated twice a-day.

12. A painful eruption over the head from

deranged wind, bile, and phlegm, which is accompanied with much pain and fever. A mixture is recommended to be applied to prevent the recurrence of this disease, made of one tola of water-lily and of liquorice, and a quarter tola of black salt, formed into a paste with milk. When these eruptions suppurate open them with a lancet, followed by the medicine for fever.

13. Swellings of the glands near the anus, sides, shoulder, or axilla, are painful, of a black colour, and are produced by deranged bile and blood. Leeches should be applied to the glands; and then the following mixture, composed of four chetacks of the oil of sessamum, and two tolas of helanchi, and vite trifolium, and four chetacks of the juice of menispermum condifolium; which are boiled together until the juice is evaporated.

14. Pustules over the body, like the last. When forming, they resemble a burn, and are produced by deranged bile and blood. The treatment is precisely the same as the last. The following pills are administered by Rasachandrika: Take a quarter tola of acacia catechu and of turmeric, and half a tola of sulphur; mix and make into eight pills with the juice of nimb-bark, (melia azadiracta), and give one twice a-day.

15 A hard inflammatory swelling in the axilla,

with strong fever, and other severe symptoms, is a dangerous disease when not treated in the first stage. In this complaint the urine is very hot, and it sometimes proves fatal in the seventh, twelfth, or fifteenth day. It is produced by deranged wind, bile, and phlegm. This disease is generally considered incurable. According to Sarsangraha the following paste should be used: Take one tola of root of caesalpinia, or anduculla, or putikamul, red sandal, and emblic myrobalan, and half a tola of plumbagarose. These are made into a paste with water, and heated over the fire for an external application.

16. Ulceration under and around the nails, from deranged wind and bile, is the ozæna of authors, which is painful and troublesome to heal. According to Sarsangraha the following wash is recommended: One chetack of a sort of ocymum (*babbola*), and eight chetacks of water. Make an infusion and use as a wash. The following paste is also recommended by the same author: Take a quarter-tola of burnt sulphate of copper, ocymum leaves, rock-salt, and fresh ginger. These are made into a paste, which is heated, and constantly applied to the parts affected. When these suppurate, open them with a lancet, and apply the following: Four chetacks of oil of ses-

samum, and one tola each of red oxide of lead, common sand, juice of turmeric, and burnt sulphate of copper. These are heated in the sun for a day, and then applied to the ulcer.

This plan of treatment is also applicable to whitlow, or *kumakha*.

17. Discolouration and rough appearance of the nails, which drop off.

18. Small scrofulous tumours in the feet, of the natural colour, with deep ulcerations, for which bleeding or leeching is recommended, followed by purgative medicines, &c. A decoction of myrobalan chebulic, emblic myrobalan, belleric myrobalan, hyperanthera maringa, and dashamul, eleven ratikas of each, is used in this disease; it is boiled in a pint of water, until reduced to one quarter. It is to be repeated twice a-day. The external application should be cow's urine, gomutra, a kind of myrrh, guggul of each one tola; these are made into a paste, which is applied to the affected parts.

19. Large swellings in the axilla, groin, and joints, for which, according to Charaka, the following application may be used: The juice of datura stramonium, is well mixed with onions, and heated over the fire, then applied to the affected parts for a day, with a view to discuss the tumors. The next application should be a mixture of hyper-

anthera moringa, pinus devadaru and opium, of each a quarter-tola. These are to be made into a paste, and heated in a vessel for a few minutes over fire, and then applied to the part affected. If the above means fail, then open them with a lancet, and treat them as a common boil.

20. Bleeding tumors, (*Sharkarabunda*): When the wind is deranged in the flesh, or in different kinds of vessels; or wind, phlegm, or fat are deranged, forming a swelling like that of a knot on a string, and a substance like fat is discharged. The tumors suppurate; at first they resemble joints of a shining appearance, and the discharge resembles honey or fat. These tumors are then organised, and depositions of flesh, fat, wind, phlegm, and vessels form with the absorption of flesh, and granular fat like sugar remains. The tumor then becomes fœtid, and ulceration takes place from within, followed by hemorrhage. According to the same author, the tumor should be removed, and then the disease treated like other boils.

21. Hard swellings, like the stones of plumbs, in the soles of the feet, are produced by external injuries. According to the above author, remove the swellings by a knife, and apply to the part a mixture of warm oil, mixed with burnt sulphate of copper, &c.

22. Sores between the toes are produced by walking in moist earth, which penetrate between the toes, producing hot, painful, and itchy sores, which Chakradatta recommends to be washed with old rose water, and the following mixtures are then to be applied. Take cæsalpinia bunducella, turmeric, sulphate of iron, liquorice, honey, and sulphuret of arsenic, of each a quarter-tola; make into a paste, with the juice of the leaves of jessamine, (jatipuspa patra).

23. *Baldness.* Chakradatta recommends the following oil: Take eight chetucks of oil of sessamum, and two tolas of leaves of jessamine, plumbago rosea, and darkaramcha, and two pints of water. These are boiled until two-thirds of the water are evaporated; then strain. Susruta prescribes burnt ivory one tola, with two tolas of oil of sessamum, for an external application.

24. Scaly eruptions (dandriff) at the roots of the hair of the head. They are itchy, and are produced by deranged phlegm and wind. Susruta recommends bleeding from the temporal artery in severe cases; but in mild cases, Chakradatta prescribes the following plaster: Take one quarter-tola of a sort of acid fruit, liquorice, putchuk root, rock-salt. These are made into a paste with old rose water. This mixture is to be applied for a week.

25. Small pustules in the head, which discharge bad matter called *armishika*, are produced by deranged phlegm, blood, and worms named *orunsecka*. Charaka recommends opening these pustules, or applying leeches to them. Then wash them with an infusion of neem leaves, and apply the juice of horse's dung, ghostakabishthuras, rock-salt, and saindhablaban, of each two tolas, which are heated a little before being applied. The following oil is also used: Add to eight chatacks of oil of sesamum, one tola each of turmeric, berberis aristata, plumbago rosea, myrobalan chebula, emblic myrobalan, belleric myrobalan, aleelia azadiracta, red sandal, and two seers of water. These are boiled until the water is evaporated, when it is ready for use.

26. Gray hairs are produced by anger, grief, and fatigue. Charaka recommends the following mixture for the hair: Take one chatack each of plumbago, croton polyandèr, and ghoshalata, and mix to form a paste with water for use. Susruta prescribes the following wash before the application of the black pigment, composed of one chatack each of myrobalan chebula, emblic myrobalan, and belleric myrobalan, and three pints of water; boil and reduce to half, as a wash for the hair. The pigment consists of bhrungarajpuspa,

juba puspa, of each one chatack, sheep's milk, meshadugdha, of each one quarter seer, made into a paste, which is mixed with one chatack of oil, and kept in an iron vessel under ground for seven days; then remove the paste, and mix with it one chatack of the juice of bhringaraj leaves, and apply it to the hair by means of a plantain leaf for a week, and then remove it with the above wash.

27. Small eruptions appearing on the face, at the time of puberty; produced by phlegm, wind and blood; for which Charaka recommends emetics. Then the following salve is applied to the face: Take one tola each of butter, nabinita, white clitoria root, (aprajita,) and the burnt hoof of a horse. These are made into a paste. The following oil is also used as an external application. Take one seer of liquorice, and eight seers of water; boil and reduce to a quarter; to this add eight chatacks of the oil of sesamum and three quarters of peangu madder, red sandal, water-lily, and messia ferrea: these are boiled until the water is evaporated.

28. Rough circular spots on the surface of the body like the thorns on the stem of the lily, of a white colour and itchy, produced by deranged phlegm and wind; which Susruta recommends should be treated with emetics of eight tolas of

meelia azadiracta, and one tola of vangueria spinosa. These are mixed for a dose. Purgatives are also administered, as one tola of melia azadiracta, and one quarter tola of cassia fistula (pulp). These are mixed for a dose. The following plaster is also used: The stem of water-lily, padmamrinal, reduced to ashes, and mixed with cow's urine for use. The following medicine is also used both internally and externally: Take eight chatacks of clarified butter, two tolas of turmeric, eight tolas of melia azadiracta, and two seers of the juice of patraras. These are boiled until the juice is evaporated; one tola for a dose; and it may be used also externally.

29. Black, and sometimes red or white spots (*jatumane* or maculi), at the time of birth in any part of the body. They are without pain, and are produced by phlegm and blood, for which Susruta recommends scarifications over the spots, followed by the application of caustic potash or soda, or the actual cautery.

30. Blackish spots like the figure of maskali, (a kind of pea), are stationary and without pain. The above author recommends the ashes of the root of ricinus communis, or crandamul bhasma, with the powder of a large shell, in equal proportions; which are mixed up for external ap-

plication. In chronic cases, the treatment of jatumani is applicable to this.

31. Very black spots over the body. These are not accompanied with pain, and are like til seed; and are produced by the three humors. Charaka recommends the following plaster to the spots: Plumbago rosea, raktachitraka, achyranthes apainargabhasma, red sulphuret of arsenic, manassili, in equal proportions, are made into a paste with water. The following ointment is also used: Clarified butter, ghita, four chatacks, lemon root, mutuburgamul, red sulphuret of arsenic, manassila, juice of cow's dung, gomayaras, of each two tolas. These are mixed up and put to the sun for three days.

32. Spots of gray or dark colour, sometimes covering most parts of the body. These are indolent and without pain; for which Susruta recommends bleeding from the arm, and the application of mashaka.

33. Small circular spots in the face, of a gray colour, unaccompanied with pain, are produced by anger and fatigue, or by derangement of the wind and bile. Chakradatta recommends the following plaster to the spots: Take of red sandal, putchuk root, madder, logwood *(priyangua,)* leaf of ficus indicus, batanakar, achyranthes, each of equal proportions, made into a paste with water.

34. For blueish coloured spots in the face; and black spots over the body, Chakradatta recommends the following plaster to be applied to the spots. Take a half tola of nutmeg, baremachhab, and one tola of goat's milk. These are made into a paste. The following oil is also used: eight chatacks of oil of sesamum, and one and a half tolas of crocus sativus, red sandal, shell-lac, madder, and liquorice, two seers of goat's milk, and eight seers of water. These are boiled until the water is evaporated; then strain through cloth, and apply to the spots.

35. A peculiar itchiness of the scrotum, is generally produced by uncleanness. Chakradatta recommends the following plaster for external application. Take one quarter tola of sulphate of iron, concrete juice of the bile of the cow, sulphate of copper, sulphuret of arsenic and of antimony. These are made into a thin paste with acid rice-water.

36. Swellings, with inflammation of the skin, do not suppurate, but they produce severe pain, and have an itchy sensation, with fever. This disease is produced by deranged bile, for which Susruta recommends an ointment for an external application. Take four chatacks of clarified butter, three-quarter tolas of the leaves of irichosanthes,

myrobalan emblic, sulphuret of antimony, ad one seer of water. These are boiled until the ater is evaporated. He also prescribes a plaster emposed of turmeric, haridra, bhringaraja, of eah one tola; these are made into a paste with wate.

The eight following diseases are usually cot sidered under this class; but for obvious reasons I have described them under their respective diseased organs: prolapsus ani, phimosis, paraphimosis, stricture of the urethra, or rectum, and eruptions round the anus, tumors, and erysipelatous inflammations.

The systematic medical writing of the Hindus being based upon their philosophy, was neglected at an early period, from their social system being destroyed by the devastating Asiatic wars and revolutions; and the successors of the ancient Hindu physicians lost much of their superiority, being satisfied with an empyrical application of the ancient writings from which the following Buddhist systems were formed.

BOOK II.

REVIEW

OF THE

BUDDHIST SYSTEMS OF MEDICINE.

A reform of the Sabian and Brahminical worship of the ancient Asiatic races, so as to diminish their idolatrous practices, gave rise to the Buddhist religion in India, in the sixth century before the Christian era. The word "Buddha"* originally signifies the creative omnipotent God, and has since been extended to those who worship him, and sought to regenerate themselves to him by moral means. This was accomplished by contemplation and holiness; by the spirit of mildness, equality, and fraternity, or by virtue, justice, and benevolence. In its more modern form, Buddhism has no recognised distinct doctrine regarding the

* The word is derived from a sacred double root, "*badie*," which signifies being, existence, wisdom, and supreme intelligence.

Deity, the supreme being, the creator and ruler of the universe. He was recognised in the original belief of Asiatic people, to which they added a divine triad, which combines the principle of the Trinity with the unity, although often under other names than those of the *trimurti* of the Hindus. They believed in the transmigration and purification of the soul, its complete isolation, and often its total annihilation.

The Buddhists rejected the sacred *vedas* and *upa-vedas* of the Hindus, their exclusiveness of race, the supremacy of caste, the superiority of the thrice born, and repudiated the sacerdotal superiority of the Brahminical sect and country. The new religion encouraged a proselytising spirit and eclectic tendency, which afterwards admitted the Christian formulæ, and other innovations, to suit their interests, which were so often at variance with the Hindu creed.

Like the Brahmins, the Buddhist priests were supposed to be the bearers of the truth, to inform and enlighten mankind. The former pretended they were the ambassadors of the Deity, from whom they received their appointment and instructions; and since no one else could reward them, so no one else had a right to rule them. They alone received the truth, were able to inform and en-

lighten mankind, could judge and reward them; and to him alone they gave an account of their dispensation to rule them. They thus placed themselves above other men. The Buddhist priests, while they claimed a like superiority, pretended they did not receive their instructions directly from the Deity, but from his vicegerent, the saintly Sakya Muni; and with the Hindu morals, and their own benevolent doctrines, they, at an early period, attended to the means of alleviating the sufferings of humanity. The Buddhists addressed their doctrine to all mankind, and recognised the eligibility of every individual for the attainment of the highest degree of intellectual perfection, and ultimate bliss; and Buddhism may be considered as a monastic asceticism in morals, and a philosophical scepticism in religion.

Such was the sanctity and zeal of Sakya Muni, the founder of the new religion, that during his long and active life, and by the energetic enthusiasm of his followers, it rapidly spread over Hindostan. It was first promulgated in the Pali language, in the district of Magadha, or Behar; and the former instructed faithful disciples in the tenets of his religion; and he was supposed to be absorbed into the great God of the universe, in the year B.C. 543, while they remained to inculcate the

principles, laws, and doctrines of Buddha. Soon after it was found necessary to hold a convocation (Rajagriha) in Behar, of his most learned disciples, in order to reduce the doctrine to an uniform system. This assemby agreed upon the chief points of doctrine and discipline. This code recognised three classes of society; a low class of religionists, who were addressed in public; a middle class of followers, to whom an arrangement of aphorisms were addressed; and a third or priesthood, to whom the highest principles of their faith were imparted.

Some time after the invasion of India by Alexander the Great, Asoka, the grandson of Chandragupto, the sovereign of India, was the great Buddhist monarch of that country, who flourished in the early part of the third century B.C. He propagated the new doctrine by erecting columns, by building numerous monasteries (viharas), pillars (lats), topes (sthupas), and hospitals, and thus encouraged the benevolent objects of the Buddhist religion. From an early period the priests associated themselves in companies, for the education of children, and the relief of the sick, for facilitating the performance of pilgrimages to certain cities and temples, and for the propagation of the Buddhist religion; not only in India, but in all parts of

Asia, Africa, and Europe. This new faith, based on benevolence and justice, rapidly spread over a greater part of Asia. The new opinions were gradually adopted, and three hundred years after the first assembly, it was found necessary to call a second council at Vaisala, opposite Patna, (B.C. 210); and for a like reason, a third council was held 218 years afterwards, in the city of Palibothra, (Patna).

The religious doctrines of the Buddhists was not reduced to writing at any of these convocations, which explains how little we know of the founder, and of the complicated changes that the doctrine and usages underwent during ages of literary leisure in different countries, and among various races. Their doctrines were long afterwards reduced to writing in Ceylon, where the inhabitants embraced the new faith at an early period. Instead of Buddhism ministering to all the grosser passions, like the theories of Islam, it corrects the vices of the heart, by appealing directly to the intellectual and contemplative province of man's nature.

CHAPTER I.

ANCIENT BUDDHIST MEDICINE IN INDIA.

Buddhism inculcated the observance of the duties of reverence to parents, love to neighbours, and charity; and in place of finding its chief stimulus in

struggling after fame, and in the offer of material prosperity, it presents the vanity of possessing earthly goods, and the hollowness of human approbation; and instead of hoarding the produce of his industry, the prosperous man is recommended to devote his superfluous wealth to the founding of a refuge for the blind, the destitute, the cripple, and the diseased of the creation. This was considered the sure method of acquiring happiness in this world, and of propitiating heaven. For this purpose men strove to propagate the faith of Buddha, and estranging themselves from all domestic and social obligations, led a life of celibacy and mendicancy. Among the duties of the priesthood was that of educating the young, not in vain theoretical or mysterious doctrines, but in useful learning, directed to the common purposes of life; as seen among the Burmese of the present day, where national indigenous education is widely diffused; and the teachers have no harsh or revolting precepts, or condemnatory clauses against other religious tenets.

SECTION I.

EDICTS AND HOSPITALS.

The Hindus, Buddhists, Phœnicians, Egyptians, and other ancient Asiatic nations cut upon stone

those memorials or edicts which they were desirous of making generally known. To render such records more sacred, they were prepared on the "live" rock, or upon sacred pillars, and they have proved the most durable monuments we possess. From the early age in which they were prepared, and containing the fundamental precepts of religion, they are peculiarly interesting. Those of Asoka, the great Buddhist Emperor of Hindostan, were inscribed upon rocks and monumental pillars in different parts of his vast empire, in the third century before the Christian era. These inscriptions are remarkable monuments of the benevolence and sagacity of that great sovereign. He made arrangements, for religious purposes, with Antiochus, Ptolemy Philadelphus, Antigonus, Magas of Cyrene, Gonatus of Macedon, and Alexander king of Epirus, engaging them to abstain from discouraging the tenets of the creed advocated by the Indian monarch. These edicts emanated from the school of Sanchya, which professed to instruct its votaries as to the means by which eternal beatitude might be obtained after death. They resembled the interesting speculations of the Hindu philosophers, regarding the nature, intelligence, and consciousness of man, the organs of sense and action, the five elements, and soul and

body, the passions, errors, illusions, &c Such opinions are interesting in an historical point of view, as they bear indubitable proof of the esteem in which medicine was held, and the high state of civilisation of the then governing powers, at this very early period. The edicts still extant upon the rock of Dhaule, in Katak, and the Girnar in Gujarat, were promulgated through the provinces of India, not to record the virtues or the extent of the conquest of the sovereign, but to give directions for the benefit of his subjects. This enlightened potentate, Pydasha, the beloved of the gods, has been identified with king Asoka. These edicts relate to the establishment of a system of medical administration throughout the dominions of the supreme sovereign of India, and they included both man and beast. They direct that the life of no living being was to be taken; that wells, and trees, and caravanseries were to be erected in public highways, for the use of travellers; and that the sick and wounded were to be carefully attended to, by the erection of medical houses or hospitals, and depots of medicine for the sick of man and animals. These, the first

* See Colebrook's Enquiry on the philosophy of the Hindus; Trans. Royal As. Society, vol. i. p. 19; see Asiatic Journal of Bengal, 1838; Royal Asiatic Journal; Thomas's Indian Antiquities of the late James Prinsep, vol. ii p. 12, *et seq.*

hospitals on record, were provided with all sorts of instruments and medicines, consisting of mineral and vegetable drugs, with roots and fruits; and "wherever there is no provision of drugs, medicinal roots and herbs for the wants of the sick, and skilful physicians are to be appointed to administer them, at the expense of the state." These records prove the parental care of the government, and the extent of medical knowledge among the ancient Asiatics. This must have been at a time not long subsequent to the age of Alexander the Great; for the inscription mentions one of his immediate successors, at that time ruling in the provinces, of which the date is to be inferred to be B.C. 220. At this early period, the Buddhist priests formed themselves into companies, to make pilgrimages from town to town, and from temple to temple; with the object of conversion and for the propagation of their benevolent schemes, among which was assistance to the sick.

To South Behar, people repaired from all the provinces, where the delegates remained in towns, and each establishment had a *medicine house* of happiness and virtue;* more particularly in the west of India, where Banians and Jains were

* Journal As., Calcutta, vol. vii. pps. 186 & 237. Sir A. Burne's ibid p. 97.

numerous. The poor and the orphan, the lame and the sick of the provinces repair to these houses, where they had all that was necessary for their wants. Physicians, instructed in the ancient Hindu medical sciences, examined and treated their complaints, and they were provided with food and drink according to their experience of what is right, and proper medicines were administered to them. Nothing was omitted that could contribute to sooth and gratify them, and to cure their diseases. At the same time the utmost liberty was given them, so that they could leave the hospital whenever they desired.* Buddha Das appointed a physician for every ten villages on the high road, and built asylums for the crippled, the deformed, and the destitute.† His son, Upatisso, built hospitals for cripples, for pregnant women, and for the blind and diseased,‡ and Dhatusena built hospitals for cripples, and for the sick.§ In more modern times, dharmsalas, or hospitals, or monasteries were built by the wayside for the assistance of the poor and sick.

After a reign of 37 years, the great Asoka died B.C. 226; and his immense empire was soon broken

* Pilgrimage of Fa Hean, Calcutta, pps. 225 & 262.
† Turnour's translation of the Mahawanso, p. 245.
‡ Ibid, p. 249. § Ibid, p. 256.

up, and in the year B.C. 178 the Maurya dynasty ceased. This was followed by such wars and commotions that a century and a quarter afterwards, Brahmanism was restored in Hindostan, and the Buddhist temporal power was completely overthrown in the north of India. Fa Hean, the Chinese pilgrim, in the third century, found the birth-place of Sakya a wilderness. In the seventh century, the journal of Huran Toang, a Chinese traveller, abounds with notices of monasteries, and sacred temples in Hindostan; with a diminished number of sacred mendicants, and an increase of heretics.

It was during this century that Buddhism disappeared from India.* Their temples and monasteries were desecrated and destroyed, or converted to Hindu places of worship. They disappeared so completely, that in the sixteenth century, Abulfuzl, the able minister of the Emperor Akbar, could not find an individual to give him an account of the Bhuddhist doctrines: So cruelly were they persecuted, or driven from their homes in Hindostan, that able and enthusiastic Buddhists settled in different countries, and employed their efforts for educating and improving the different races of people among whom they resided. The Buddhist

* Wilson's Buddha and Buddhism, p. 355.

instructions on rocks and pillars were neglected, and the arbitrary doctrines of their religion were modified to suit their altered circumstances, so admirably adapted to win acceptance among the educated and reflecting students. The consequence was, their eclectic and proselytising religion, and the zeal and talents of the missionaries, rapidly extended their spiritual sway, both in the east and west. There they erected temples, and founded and endowed many hospitals and establishments with grants of land, and husbandmen and cattle to cultivate them. The nature and sometimes the extent of these gifts, were often engraven on plates of copper. Some of these declared that subsequent princes and chiefs were not at liberty to interfere with these grants, under the severest denunciations: threats, which, in more modern times, were equally neglected by the Buddhist and the Hindu when their interests were involved in the issue.

The ancient Buddhist hospitals were probably commenced even before the time of Asoka, or about the time the rock inscriptions were prepared, and were most probably the original form of these establishments, enforced by a strong religious sentiment, which was extended to the preservation of animal life in all its forms.

SECTION II.

MODERN BRUTE, OR BANIAN HOSPITALS.

The peculiar humanity of the small and despised community of modern Buddhists in the country of their ancient greatness, induced them to keep up brute hospitals (Pingra-Pol), which are still to be found in different parts of Hindostan. Trevinnier informs us that he found three or four such houses in Amandabad in 1772; and Scavoneur gives an account of the Banian hospital which still exists at Surat.* This curious institution is supported by one anna per cent. on the rupee of the merchant's clear gain, to which is added the fines for certain venial offences, under the supervision of the chief Banians. In 1770, when trade had decayed, the revenue was upwards of £600 a-year, and so careful were they of the animals, that bread and milk were provided for two which could not crop the grass. The hospital consisted of twenty-five acres, surrounded with a high wall, divided into courts, and defended by sheds and wards for the accommodation of the animals.†

* Voyages, vol ii. p. 489.

† "If proper inquiry were directed to this building," writes Prinsep, "I dare say it would be discovered to be a living example (the only one that has braved twenty centuries) of the humane acts of Asoka, recorded at no great distance, on a rock in Guzerat."

At the present time there are no hospitals for the cure of human beings when sick, or maimed, or old, because they were supposed to be provided for by the government; while places are prepared, and persons engaged to attend the sick and the aged of the inferior animals; proving how much the essential is sacrificed to an affected refinement of feeling. Niebuhr found the hospital containing horses, mules, cows, oxen, sheep, goats, monkies, and a variety of sick and maimed beasts; and poultry, pigeons, and a variety of birds; also an old tortoise, which was known to have been there seventy-five years.* In sickness, the animals are attended by properly instructed individuals with the greatest care, and where they found a peaceable asylum for the infirmities of age. When an animal broke a limb, or was otherwise disabled, his owner brought him to this hospital, where he was always received without regard to the caste or nation of his master. There they remained for life; and the only work they were required to perform was drawing water for the use of the patients of the hospital. Above stairs were depositaries for seeds of many sorts, and flat broad dishes for water for birds and insects; and bad rice containing insects, were put into a sort of cock-loft, apparently for the food it

* Vol. ii. p. 405; and Hamilton's Hindostan, vol. i., p 718.

affords weevels (colandra). But at Surat, beggars were hired for the night to feed fleas and bugs with their blood, without molesting them, which does not appear to be the exaggeration of travellers.*

In 1823, Sir Alexander Burnes visited the brute hospital at Surat.† It is situated in the suburbs between the inner and outer wall, surrounded by houses and a dense population. It occupies a court fifty feet square, to which a large area is attached to admit cattle to roam about, and it is strewed with grain and straw, to prevent the inmates wanting either food or bedding. They receive animals of all descriptions, from all countries, as the more numerous they are, they increase the reputation, and happiness, and prosperity of those who support them. In the hospital, Sir Alexander found the old, lame, or disabled animals consisted of buffaloes, cows, goats, and sheep, and cocks and hens, some of the latter had lost their feathers. There were cages to protect the birds, but most of them were empty; and a colony of pigeons were fed daily. One of the houses, twenty-five feet long, has a boarded floor elevated eight feet, under which the Buddhists throw a quantity of

* Mr. Forbes appears to have seen it, "at my visit:" See Oriental Memoirs, 2nd Ed. vol. i. p. 156 et seq.

† Journal of the Royal As. So. vol i., p. 95.

grain, the oftener the better for themselves, as a work of charity; once a-year, the refuse of their granaries, and damaged corn unfit for use is placed there, and in its hot and stagnant air, gave life to a mass of vermin, dense as the sand on the sea shore, which are usually found in the abode of squalid misery. Pigeons and alligators were seen in a temple at Anjar, in Cutch. Sir A. Burnes found a colony of rats, conjectured to exceed five thousand in number, which were kept in a temple, and daily fed with flour, procured by a tax on the inhabitants of the town. Similar hospitals for animals are to be found at almost every large city on the western side of India where the Banians of Jains reside. Such institutions are established from motives of benevolence, and from the belief in the doctrine of metempsychosis.

The Buddhist faith had such attractions that it rapidly extended from India to the neighbouring countries, and the Tibetian government and Mongolian empires of China and Japan, the Cingalese, Burmese and Siamese accepted Buddhism from India. These latter nations are little advanced in civilisation; and even the Chinese, who stand in the highest rank of the Asiatic nations, are by no means an enlightened people. These, and the inhabitants of Tibet, have each a system

of medicine derived from the Indian Buddhists. The latter being connected with Lamaism of Tibet, and the former with the Fo-ism of China. Both these people have numerous translations, and commentaries upon the Hindu system or *Fan*, or more properly *Fan-lan-ms*, the language of the Brahmins, or the Sanscrit, Pali or Nagadha language.*

The Asiatic countries in which the Buddhist religion made the greatest advances, from their physical and geographical difficulties, and the peculiarities of the character of their inhabitants, have not been invaded and subdued like all the rest of the civilised world, by hordes of distant strangers; and there the Buddhist religion still remains.

In consequence of the detailed particulars which have been given of the Hindu system of medicine, the following sketch will chiefly treat of the deviations from the original, in consequence of the peculiarities of climate, and genius of the people. The similarity of the two systems were rendered still more marked by the pilgrimages which were made between Tibet, China, and Hindostan. In these extensive countries the principal, and nearly the only vegetable aliments of the inha-

* Wilson's Journal, Asiatic Society, vol. xvi., p. 229. Thomas's Indian Antiquties, vol. ii, p. 33

bitants is rice; and fish is consumed in large quantities, while animal food is rarely used.

CHAPTER II.

REVIEW OF THE ANCIENT TIBETIAN SYSTEM OF MEDICINE.

This extensive country is situated in the Himalaya range of mountains of considerable elevation; is only separated from Hindostan by a mountain ridge, and presents a peculiar, and in every way a distinct aspect and character. From its elevated position, and bleak and barren soil, it has scanty crops, chiefly of grain, and affords food to flocks of animals, peculiar to the elevated region. Its air is cold, pure, and bracing, and the sacred character of its chief, with the strength of the mountain barrier, served as a kind of safeguard against the depredations of the surrounding Tartar tribes. When the followers of the Buddhist religion were expelled from Hindostan, by the rival system of Brahma, their tenets were modified in Tibet. They worshipped mortals exalted into deities (Lamas), in the place of the spiritual author of the universe. This formed the worship

of Buddha, the Chinese *Fo*, and the Tartarian Shamairam. The great Lama administered the civil and ecclesiastical offices of the state; while inferiors ruled the monasteries under the Buddhist system, with the usages of seclusion and celibacy. Like the Roman Catholics of the middle ages, they retained not only the spiritual, but likewise the civil power; possessed all the wealth and learning of the country; were strict in the performance of their duties, and retained many of the opinions of their progenitors, the Hindus. The votaries of the great Lama had a respect for their gods, and made pilgrimages to the sacred city of Benares, to Juggernaut and Saugur; while the enthusiastic Hindu visits the lofty snowy peaks, and the lovely mountain lakes of the Tibetian mountains.

The Buddhist inhabitants of Tibet believe in the doctrine of the transmigration of souls, which is changed from the speculative belief of the Hindus into a powerful engine of practical influence. The chief, or Lama, is supposed to be selected by certain celestial indications, is exalted into a deity, and succeeds his predecessor in the administration of all the civil and ecclesiastical affairs of the state. There are other inferior Lamas, who enjoy more subordinate offices, while the nobility are formed of monks. These form the

dignity, the intelligence, and the riches of the country.

The eclectic Buddhists entered Tibet and the neighbouring countries at an early period, and extended over the greater part of the Himalayan mountains; but it was in the eighth and ninth centuries that the chiefs afforded encouragement to the Hindu learning, and obtained their alphabet and knowledge through the Cashmerian pundits. This explains the number of Sanscrit writings translated into the Tibet language by the association of pundits and learned natives, which form their copious literature. It was unfortunate that these men belong to the era when observation was neglected, and reason, united to experience was laid aside for a spiritual superior, succeeded by mystical and superstitious speculations. These literary works of Tibet were originally derived from India, and formed two large collections called the *Kah-gyur* and the *Stan-gyur*; the former being the "translated precepts," or moral and religious doctrines taught by Sakya-sinha, and consisting of an hundred volumes. These treat of education, discipline, and conduct, transcendental wisdom, legends of Buddha, with aphorisms and mysticism. The second, or *Stan-gyur*, consists of two hundred and twenty-

five volumes, containing the same uninteresting subjects; eighty-seven being mystical doctrines, and one hundred and thirty-six miscellaneous aphorisms. There are also works on logic, rhetoric, and Sanscrit grammar, with vocabularies and treatises on mechanical arts and civil government, with five volumes on medicine. These, like the original Sanscrit works, were supposed to be derived from the oral instruction of able and saintly men, which were collected and recorded by their respective disciples.* Medicine was too useful to be neglected by the Tibetians; but their principal work on medicine is not introduced into those collections; it has a sacred character, being attributed to *Shakya*. The originals were translations from Sanscrit works. A Tibetian interpreter translated them from Cashmere, and they were studied by a succession of physicians; until one more eminent than the rest, modified them to suit the people, propagated their contents among his countrymen, and raised up learned men in medicine, who prepared commentaries on the Hindu system. These sacred works were guarded in the monasteries; the grand Lamas were the sole depositaries, both of the temporal and spiritual

* Asiatic Journal, Calcutta. Note on the Literature of Tibet, by H. H. Wilson, page 243, *et seq.* August, 1831.

power. Though they were strict in their religious observances, they yet exhibited a tolerant spirit, by allowing the inferior Lamas to support themselves by various handicrafts, while living in the convents; and by allowing the old local divinities still to be worshipped by the people, and the poorer classes to make their offerings, with the sanction of the Lamas, to the genius of the hills, the woods, the rivers, and the valleys. *

SECTION I.

ORIGIN AND CLASSIFICATION OF DISEASES.

In some particulars the Hindu system was modified to suit the opinions and genius of the people, and was believed to have been promulgated by the Buddhist Sakya, and not by the Hindu Dhanwantaree. The work from which the following analysis is principally taken was translated from the Cashmere language, by Bairotsana, in the days of Khri Snong Dehutsan, and presented to the Tibetian king in the eighth or ninth century. It was studied by many other learned physicians, until Yulthog the Second, in the

* Journal, Asiatic Society of Calcutta, vol. iv. p. 1 Major Cunningham's Ludack, p. 366. London, 1854.

thirteenth century, revised, improved, and propagated it, with nine other learned men. The Tibetians have forty-five other works on medicine, as a Lama informed Csoma de Koros.* Such a beginning of the medical profession would not suit their purpose, and a more dignified origin was therefore given to it. The science was said to have been taught by the saint Chamdandas, Shakyah, or Buddah; who, as a physician, in the midst of a forest of medicinal plants, addressed an assembly of sages or rishies, and a large concourse of both orthodox and heretic hearers, as follows:

"Assembled friends! be it known unto you that whoever wishes to retain health, or to cure disease and prolong life, must be initiated in the doctrine of medicine; and whoever wishes for moral distinction, virtue, wealth, or happiness, and desires to be relieved from the distress of sickness, and to be honoured and respected by others, must be instructed in the art of healing."

One of the sages, Drang Srong, requested information as to the manner in which they could promote the well-being of others, and asked the saint to instruct the assembly in the science of medicine, which the teacher observed was so necessary for the preservation of health, and purity of morals.

* See Journal As. So., Calcutta, for January, 1835, vol. iv., p. 1.

The saintly instructor complied. He classified medicine into four departments, which resemble the roots of a tree; consisting in theory, which includes instructions in the nature and importance of medicine and classification of disease; the description, or explanation of the nature and peculiarities of disease; the means of curing disease; and the explanation of manual operations.

In explaining this complicated art of medicine, he used an allegory to simplify it, and at the same time pointed out the advantage of a lucid arrangement according to a synoptic method. The whole subject he compared to a tree; the roots being the place or ground of the disease, the symptoms, and the manner of cure. From the chief root arise the two stems, the first being the natural or healthy state of the body, and the second, the changed or diseased condition.

From the stem of the healthy body is derived the seven supports of the body, and the excretions; and from the second stem, a diseased state, proceed nine branches, or causes of disease, which are either direct or accessary, with the place, manner, and time of the accession, the direct consequences, or transitions to another disease.

From the eight branches of the healing art are derived: 1st. General diseases of the whole

body and their cure. 2nd. Particular diseases incident to children. 3rd. Particular diseases incident to women. 4th. The nature and cure of diseases produced by evil spirits or demons. 5th. The nature and cure of wounds. 6th. The means of preventing the consequences of venomous animals, or poisonous infections. 7th. The infirmities of old age; and 8th. The means of increasing the virility of man.

Diseases are also divided into two classes, hot and cold, or of solids, and fluids or humors. To the solids belong the diseases of the seven supports of the body, *chyle*, *blood*, *flesh*, *fat*, *bone*, *marrow*, *and semen*, with the excretions; and to the fluids, the derangement of the three humors, wind, bile, and phlegm.

From the second stem proceed the symptoms of disease, which send forth three classes of stems, from one of which arise eight boughs. Two of these regard the tongue and urine; three the pulse as affected by the wind, bile, and phlegm; and three varieties of questions regarding the peculiarity of disease. From the third stem proceed forty-seven branches, of which three regard food, three drink, and three regimen, and six physic, with respect to taste and efficacy, six are of soothing mixtures; with regard to taste and efficacy three are cleans-

ing medicine, and three of chirurgical or manual operations.

The number of leaves issuing from the forty-seven branches are: 1. From the top of the stem there are twenty-five diseases. 2. From second stem are sixty-three symptoms or tokens of sickness. 3. On the third are six diseases indicated by the tongue and urine. 4. On the fourth stem of feeling are three sorts of pulse. 5. Fifth are twenty-nine diseases known by oral examination. 6. Are from food, fourteen diseases of wind, twelve of bile, and nine of phlegm. 7. There are five varieties of disease from the conduct in life. 8. From physic are fifty varieties, of which nine affect taste and nine other affects, three from soups, five from a kind of medical butter or syrup, four from mixtures, four from powders, two from pills, five from aromatic powders, and nine from detergent applications. 9. Seven branches of chirurgical operations.

There are thus two hundred and twenty-four diseases to which the body is liable, consisting of one hundred and eighty-eight forming the leaves arising from the place; thirty-eight known by the symptoms, and ninety-eight denoting the manner of curing. There are also two blossoms, health and long life; and three fruit, moral perfection, wealth, and happiness.

The chief diseases are produced from changes in the flesh, fat, bone, tendons, nerves, intestines and veins. There are forty-five diseases of the flesh, eight of fat, thirty-two of bone, fourteen of the tendons and sinews, thirteen of the intestines, and one hundred and ninety in the vessels. In the head there are sixty-two diseases, in the neck thirty-three, in the trunk of the body ninety-five, and in the two hanging members (hands and feet), one hundred and twelve. There are two hundred and two important diseases, of which ninety-six are said to be incurable, forty-nine are dangerous, but may be cured by a learned physician, and the remaining one hundred and fifty-seven diseases may be cured by persons of ordinary sagacity, without the assistance of the physician.

There is another class of diseases which is produced by derangements of the orifices of the body, for the conveyance of wind, blood, drink, and food to and from the body. There are thirteen of these passages in the male, and sixteen in the female. From the use of improper food, or undue exercise, these passages may be so injured, and diseases produced, from the humors in the part being either too much increased, relaxed, or constipated, or from their taking a wrong direction.

When these passages are clean and free from any derangement, the body is in a healthy state.

The difficulty of the study, and the importance of the subject required the moral sanctity of the successful practitioner, which explains why the practice of medicine was confined to the Buddhist priest, of a respectable family, well acquainted with the theory and practice of medicine, and an impartial, upright, and good-hearted individual.

SECTION II.

STRUCTURE AND ACTIONS OF THE BODY.

The body is stated to have thirty-two members, and is described according to the bulk of its soft parts, the nature of its diseases, and of the spiritual enemies of the body, with its openings for the circulation of wind, &c.

1. *Bulk of the body.* The material part of the body is alluded to in the following fanciful manner: The quantity of vital air, or wind in the body is equal to a bladder full; that of the bile, to the ordinary quantity of dejections discharged at one time; of phlegm, to three joined handsful;

that of the blood and dejections, to seven joined handsful; that of the urine and semen, to four joined handsful; that of the grease and fat, to two joined handsful; that of the chyle and the semen, to one handful; that of the brain, as much as can be contained in a single handful; and that of the flesh, to five hundred handsful. Women are supposed to have an excess of twenty more on account of the size of their thighs, and breasts.

a. There are twenty-three sorts of bones. In the spine there are twenty-eight; in the ribs, twenty-four; teeth, thirty-two, &c.; and in the whole skeleton there are three hundred and six pieces of bone.

b. There are twelve large joints of the limbs, and two hundred and fifty small joints.

c. Of tendons or sinews there are sixteen; nine hundred nerves or fibres; eleven thousand hairs on the head; and eleven millions of pores of the head and body.

d. There are five vital parts or viscera, the heart, lungs, liver, spleen, and kidneys.

e. There are six vessels, and nine openings of the body.

f. In one of the Tibetian medical works, six feet is considered the height of the body, and three and a-half cubits that of deformed bodies.

2. The veins or nerves, are those of vitality, conception, sensation, and connexion.

a. From the navel three veins or nerves arise; one proceeds to the brain, and is acted on by the part, and generates the phlegm in the upper portion of the body; another nerve (or vein) passes along the centre of the body, forms the vital nerve of passion and blood, and produces bile. The third nerve descends into the genitals, and generates desire in the male and female; and a fourth nerve, which produces wind, resides in the lower extremities.

b. There are four nerves of sensation for rousing or exciting the organs; in the brain, the principal nerve is surrounded with five hundred other smaller nerves, and another forms the organ of memory clear, which resides in the heart, and is surrounded with five hundred smaller ones. The nerve which produces the increase and renovation of the body resides in the navel, and is surrounded with five hundred smaller ones. The nerve which produces the procreation of children, resides in the genital organs, together with five hundred smaller veins. These complete the nerves of the whole body.

c. The nerves of connexion, consist of a white mass, or nerves and tendons; and of a black mass,

or blood-vessels. There are twenty-four large veins or nerves, which ascend the principal stem of the vital blood, and serves for increasing the flesh and the blood. There are eight large hidden veins or nerves, for completing the connexion of the viscera and vessels; and sixteen superficial veins connecting the limbs, and seventy-seven spreading from these, from which the blood may be removed. There are one hundred and twelve sensitive veins or nerves of a mixed nature, and one hundred and eighty-nine others. From these arise one hundred and twenty from the outer, inner, or middle parts, which give off three hundred and sixty smaller ones, and surround the body as with a network. There are nineteen strong working nerves, which like roots descend from the brain, the ocean of nerves; of which there are thirteen deep or hidden, which connect the intestines; six others connect the outward parts, and are superficial or visible, from which spread sixteen small tendons or sinews.

There are supposed to be three vital nerves, or veins, in man. The one compasses the head and body; the second is connected with respiration, and moves accordingly; and the third is the chief, and connects the veins and canals for the circulation of wind and blood, and is employed in forming,

or increasing the body, and being a vital nerve is called, by way of eminence, the artery and principal vital nerve.

Essential parts. The seven essential parts or supports of the body are chyle, blood flesh, fat, bone, marrow and semen, upon which life depends; with the excretions, fæces, urine, and sweat. These humors are produced, by the gentle warmth or heat of the body. This constitutes animal heat; which in the stomach is the principal cause of digestion, and if it is sufficiently strong, health is retained, the lustre of the face continued, and the natural supports of the body strengthened. Hence the importance of keeping up the warmth of the stomach by artificial means if necessary.

The food and drink is conveyed into the stomach by the vital air or wind, and mixing with the phlegm, is fomented, acquires a sweet taste, and is increased in quantity. It is next digested by the aid of bile, acquires a hot and sour taste, and forms the chyle and fæces. The former is conveyed by the aid of the vital air or wind to all the body: by nine veins from the stomach, it passes into the liver, mixes with, and becomes blood, which is conveyed to all the body and imparts the animal heat. It is successively transformed into flesh, and the seven supports of the body.

Humors. The three humors are *phlegm*, situated in the brain or skull, the seat of dullness; the *bile* is situated in the middle of the body, the seat of anger; and *wind* situated in the waist or loins.

The food preserves the moisture or humidity of the body, keeps up life, and increases the flesh. It assists in cleaning the body both within and without, and produces fat, which keeps the body unctuous, and increases the bone. This forms the solid framework, and produces the marrow, improving the essential sap of the body, and finally this produces semen, which conduces to the well-being of the whole body, and propagates the species.

By the chyle, or the nourishing part of the food, is taken up into the body, and the *dejections*, or impurities, are discharged. These are supposed to serve for the support of the bowels, &c., and are the fæces, urine, and sweat, with the impurities of the teeth, nails, and those issuing from the other orifices or passages of the body. The urine renders the fæces thinner, and removes the putrid morbid humors, and the thick sediment of the body.

The sweat softens the skin, and clears the obstructed pores of the body, facilitates its actions, and the movements of the organ of speech, the mind, virtue, vice, and the five organs of sense. The body is distinguished by the three ages, seven

constitutions, by health or derangement of the system.

The symptoms of approaching death are either distant, near, or uncertain. The distant are either from dreams, or from the age of the individual. The tokens of death are either approaching, or very near; as when afflicted with sickness the person may live for years, or the disease may be speedily fatal. It is considered of much importance for the physician to know whether his patient is curable or not, which will regulate the arrangements of the practitioner.

SECTION III.

THE CAUSE, NATURE, AND SYMPTOMS OF DISEASE.

A chapter is given as to the means of retaining health and preventing disease. These refer to the means to be continually observed in leaving off every immorality, whether perpetrated by the operations of the body, by speech, or by the mind; and the proper performance of every action or function in life, as eating, walking, sitting, riding, sleeping, &c.; together with the religious observances; as the exercise of the ten moral virtues, and avoiding the ten immoral actions.

The second, or periodical observances, must be varied with the season, the beginning and ending of winter, the spring, the hot summer season, and the autumn; each of which should regulate the diet, exercise, medicine, and chirurgical operations.

The third class of peculiarities will depend on the different conditions of the body; as hunger and thirst, which should be avoided, and persons should occasionally abstain from meat and drink. The person should neither be prevented from sleeping, yawning, sneezing, breathing, coughing, or ejecting phlegm, or any of the natural discharges, lest their obstruction give rise to disease, of which several examples are given. The quantity of meat and drink to be used will depend on their kind, and the manner of using them. Some mixtures of food are improper, as milk and flesh, &c.; and ingredients should be eaten separately. The food should be corn, flesh, butter, vegetables or greens, and dressed victuals.

The two kinds of grain are corn in the ear, and pulse in pods. They distinguish various kinds of food; as unctuous or oily substances, as butter, oil expressed from grain, kernels, fruit, berries, trees and shrubs, animal grease, fat, marrow, &c., vegetables, pot-herbs, &c. The dressed victuals, as boiled rice, soup, &c., and drinks, as

milk, water, wine, &c. Fish and milk should be avoided, and other such mixtures. The quantity and temperature of food and drink requires to be considered.

The general causes of disease are lust, passion, ignorance or stupidity. They may be produced by improper exercise, causing the diseases of wind; while unnatural exertion produce diseases of bile; and listlessness, and inactivity, produces diseases of phlegm. The accessary causes of disease are the heat and cold of the semen, devils, and abuse of food, or debauchery. The parts of the body liable to disease, are the skin, flesh, veins, bones, viscera, and bowels.

There are fifteen ways in which diseases spring: From the movements of the wind, through the bones, ears, skin, heart, arteries, and intestines; those of the bile, through the blood, sweat, eyes, liver and bowels; of the phlegm, through the chyle, flesh, fat, marrow, sense, fæces, and urine; also, through the nose and tongue, the lungs, the spleen, the kidneys, the stomach, and the bladder. The diseases of wind predominate in old people, of bile in youth, and of phlegm in children; the first abiding in the cold parts of the body, the second in the dry and hot parts, and the last in the moist and unctuous parts. The diseases from wind are most

frequent in summer, before the dawn, and about mid-day; those of bile, in autumn, about mid-day and mid-night; and those of phlegm, during spring, in the morning and evening. These agencies have a tendency to increase or diminish the violence of disease.

The causes of disease are either direct or accessary, proximate, or remote; and the origin, severity, and part affected constitute the symptoms of the disease. The three accessary causes depend on the primary cause, which originate and spread, or strengthen or weaken the disease. Its state is either increasing, diminishing, or complicating, according to the too great or too small proportion of the three humors, the seven supports of the body, and the excretions.

Diseases are varied according to their cause, the individual temperament, and the kind of disease. *a.* The first is attributed to the morbid state of the three humors of the present life, or the consequences of immoral actions in a former state of existence, or to both. *b.* The temperaments are either that of men, women, children, or old persons. *c.* There are four hundred and four common diseases, the peculiarities of each of which is given, varied according as they are produced by deranged humors; either in the spe-

cial organs, or in other situations. These are peculiar diseases, of which forty-two are supposed to belong to diseased wind, twenty-six to bile, and twenty-three to phlegm. This classification is varied by different authors.

The symptoms of disease are discovered by the examination of the tongue, the urine, and the pulse; assisted by the oral examination of the patient, by which the peculiarities of the individual, and of the disease are detected.

Tongue. Should the tongue be red, dry, and rough, the wind is deranged; if covered with a thick yellowish white coating, it is bile; and if covered with a dull white fur, and soft and moist, it is the sign of phlegm.

Urine. By examining the urine, the nature of the morbid state is known, as if it was seen in a mirror. If it be blue, clear, like spring water, and frothy, it is the sign of the predominance of wind; if yellowish, red and thick, and caked, with a bad smell, it is the sign of bile. If white, with little smell and steam, it is the sign of phlegm.

Pulse. There are thirteen varieties of the pulse enumerated, which vary with the individual and the nature of the disease. When the physician feels the pulse beating strongly, or bounding and irregular, it is a sign of wind; a quick full beat

is the sign of bile, and a sunken, low and soft pulse is the sign of phlegm.

The *oral* questions to be asked the sick person, are twenty-nine in number, and should consist in finding out the peculiar circumstances of the patient, that affect health: such as the invasion and progress of the disease; the sort of pain that is felt, and the kind of exercise and food which has been found useful or pernicious. The nature and treatment of diseases includes all that are curable, and the manner in which diet, exercise, medicine, and operations act. Then follows the manner in which the morbid symptoms are removed, for restoring health to the body. This will be better understood by considering the *origin* or *generation* of the body; which are the same as those of the Hindu authors; and are explained by the process by which primordial existence is illustrated; a subject involved in much obscurity: the Asiatics supposing that generation is accomplished by the semen of the father being deposited in the mother's menstrual blood, as a seed is received into the soil. If the first predominates in strength the offspring will be a boy, and if the blood, a daughter. When both are equal, an hermaphrodite. Should the blood be formed into two masses there will be twins.

Out of the *semen* are formed the bone, brain, and skeleton of the body. From the mother's blood, the flesh, blood, heart, with the four vital parts, the lungs, liver, spleen, kidneys, and the six vessels or veins are formed, and from the soul or vital principle, arises consciousness. After the body has been thus conceived, it is increased by the two veins on the right and left side of the womb, by the small vessel containing the mother's blood for menstruation, and by the chyle formed from the mother's food. These successively descending into the womb, assist in coagulating or forming a union of the semen, blood, and the vital principle; and increase in the same manner as water is conveyed by certain canals to a field, for the production of corn. The body, by the agitation of the bodily wind is changed during thirty-eight weeks, and goes on increasing for nine months.

The continual increase of the fœtus or embryo, proceeds thus: In the first week the fœtus is like a mixture of milk and blood; in the second week it grows somewhat thick, of a ropy or tenacious nature; in the third week it is like curds; in the fourth week, from the form which the embryo takes on, we know whether it will be a son, daughter, or hermaphrodite In the first month

the mother suffers both in her body and mind from disagreeable sensations of sickness, &c.; in the second month, in the fifth week, the navel of the body is first formed; in the sixth week, the vital vein (or artery) depending on the navel forms. In the seventh week both eyes appear; in the eighth week, in consequence of the form of the eye-balls, the head arises; in the ninth week the shape of the upper and lower parts of the trunk are formed. In the third month, and tenth week, the forms of the two arms and sides (or hips), are distinguished; in the eleventh week the forms of the holes of the nine organs become perceptible; in the twelfth week the five vital parts; the heart, lungs, liver, spleen, and veins are formed; and in the thirteenth week the six vessels. In the fourth month, in the fourteenth week, the marrow in the arms and thighs are formed; in the fifteenth week the wrists of the hands, and the legs of the feet are perceptible; in the sixteenth week the ten fingers and ten toes become visible; and in the seventeenth week the veins and nerves connecting the outer and inner parts are formed. In the fifth month, in the eighteenth week, the flesh and fat are formed; in the nineteenth week the tendons or sinews, and the fibres are formed; in the twentieth week the bone and the marrow of the

feet are formed; in the twenty-first week the body is covered with a skin. In the sixth month, in the twenty-second week, the nine holes of the organs are opened; in the twenty-third week the hair on the head and on the body, and the nails commence to grow; in the twenty-fourth week the viscera and vessels become entirely finished, and then pleasure and pain are felt; in the twenty-fifth week the circulation or motion of vital air or wind commences; in the twenty-sixth week the memory begins to be clear. In the seventh month, from the twenty-seventh to the thirtieth week, the whole body is completely formed; in the eighth month, from the thirty-first to the thirty-fifth week, the whole body, both within and without is greatly increased. In the ninth month, in the thirty-sixth week, there arises a disagreeable sensation in the womb, which in the thirty-seventh week increases to a nauseous sensation; in the thirty-eighth week the head turns to the entrance of the womb, and the birth takes place. Though the period is completed, yet, on account of the mother's menstruation nourishing, and of wind acting, birth may for some time be delayed. It is likewise stated, that if the right side of the pregnant woman is large, and the body light, there will be born a son; if the left side is prominent, and the body

heavy, a daughter will be born; if both sides are elevated in an equal degree, an hermaphrodite; and if the middle or both the sides are high, then twins will be born. The symptoms of approaching birth are then described.

SECTION IV.

MEANS OF CURING DISEASES.

This is the fourth part, or the explanation of the practical part of medicine. Shakya being requested by the physicians to instruct them in the method of treating disease, stated that they must consider the persons to be entrusted with the cure, and the length of time required. He then detailed the manner of treating diseases, which he varied according to the circumstances of the patient, and the nature of the disease.

1. *Diet and regimen.* Before considering the employment of medicine, the nature of the food is to be considered. This is either flesh, game, or vegetables, and liquids, which may be employed successfully in curing diseases of *wind.* Animal and vegetable food, with soups and liquids, should be employed for the cure of

bile and *phlegm* diseases. Regimen, or conduct of life, must also be varied in the cure of disease. In *wind* diseases, the patient should live in warm air, in company with cherished friends; in *bilious* diseases, in a cool and quiet place, undisturbed by any one; and in *phlegm* diseases, exercise or business is to be avoided, and the patient kept warm.

2. The *medicines* to be used for curing diseases must be modified in each variety of disease, and should be selected according to the humors deranged at the time. Those against the diseases of wind, are sweet, sour, and saline tasted substances; which act as unctuous, heavy, and soft. Against *phlegmatic* diseases, hot, sour, and acid substances are to be used, and their effects are sharpness, roughness, and lightness; and for the cure of *bilious* diseases, medicines of a sweet and bitter kind, with a cool, diluted, and dull or blunt nature. The Buddhists next consider the proper mixtures of medicines with regard to their tastes. These are either soothing or cleansing medicines.

a. Soothing medicines are employed to cure diseases of wind, such as soups, and medicated bitters, made of bones, fresh butter, molasses, wine, &c.; against *bilious* complaints, liquid medicines and

powders; and against *phlegmatic* diseases, pills, and powdered aromatic medicines are used.

b. The cleansing medicines consist of three sorts of aperients for diseases of the wind, two of purgatives for those of bile, and two of emetics for phlegm diseases. Such medicines will be of much use when the disease is curable; but its cure is not to be undertaken when hopeless.

The method of preparing medicines for the cure of diseases varies with each peculiar circumstance of the complaint. Medicines are known by their appearance, taste, and digestive qualities. They will be modified by the manner in which they are combined, &c., and the nature of the disease for which they are given. The action of every simple medicine on the body is detailed in the medical works, and they are arranged into precious and natural stones, various earths, woods, vegetables, and medicines obtained from animal bodies. In some of the Tartarian books on medicine, nine hundred and fifteen are enumerated, and the diseases in which each is found to be of use. Such extensive knowledge was intended to captivate the ignorant, and to prove that their information was derived from supernatural power, which embraced all nature.

The efficacy of simple medicines for strengthening the weakness of old age, depends on the means

of the person to enable him to procure the necessary remedies, and the climate and the changes that may be required to have recourse to. Another paragraph explains the means by which the virile powers of man may be increased.

SECTION V.

NATURE AND TREATMENT OF SPECIAL DISEASES.

The nature and means of curing special diseases are arranged under ninety-two heads or precepts, of which the following are the chief:

1. The first contains a prayer to the saintly Shakya to bestow instructions on the weak and sinful race of man, and to convey knowledge to physicians for the cure of disease.

2. The internal and external diseases produced by diseased humors are explained, and the treatment pointed out. Regarding the diseases of *wind*, the five circumstances that require to be considered are, the direct and accessary causes and effects, the peculiarities of the individual cases, the severity of the symptoms, and the particular manner of curing this class of disease.

3. *Bilious* diseases are cured according to their

causes and effects as exhibited in the symptoms, which will vary the means of curing the disease.

4. For diseases of *phlegm*, the direct and accessary causes must be considered, and the symptoms will vary the treatment to be pursued.

5. The means of curing diseases produced by the combination of the diseased humors and blood, will vary with the cause, whether direct or accessary, the place, the time, the kind of disease, and the severity of the symptoms. When these are insufficient to explain the causes of disease, they will be found in the vicious inclinations of the individual.

The deranged humors have each a five-fold division.

a. By the wind the various actions of the body are performed. The life-keeping *wind* resides in the upper part of the head; in the breast, it operates upwards; in the heart, it pervades or compasses all the body; in the stomach, it retains an equality of heat over the body; and in the lower part of the trunk, it cleanses downwards.

b. The *bile* in the stomach is situated between the crude and digested food, which it prepares; in the liver it forms the chyle; in the heart it prepares and increases parts, gives sight to the eye, and clearness to the colour of the skin.

c. The supporting *phlegm* resides in the breast, in the masticatory and digestive organs. It produces taste in the tongue, refreshes the head, and waters the conjunctiva of the eye, and the joints.

The characteristic signs of these humors are, of *wind*, roughness, lightness, coldness, hardness and mobility; of the *bile*, unctuousness, sharpness, lightness, foulness, and depuratory moisture; and the *phlegm*, unctuousness, coolness, heaviness, and dulness, softness or gentleness, steadiness, adhesiveness and passionateness.

Their diseases are either curable or incurable, of which nine are either hot or cold; those of the blood and bile belong to the first, and wind and phlegm to the last class.

For examining into the prevalence of hot or cold symptoms, the following observations must be made. To examine the state of the tongue, urine, and pulse, and to enquire about the symptoms at the commencement, and during the course of the disease. The remedies are also numerous, and may be arranged into four classes: diet, exercise, manual operations, and medicines. Medicines either assuage pain, or are cleansing; manual operations are either gentle or strong; food is either useful or noxious, and exercise is either gentle or violent. The means of curing particular diseases, the man-

ner of employing remedies, and the drugs for preventing the spreading of malignant infectious diseases require consideration.

When the character and name of the disease is known, it is then necessary to consider the kind of medicines to be employed. Of these, fifty-four liquid medicines are enumerated for the cure of inward heat, and twenty-three for assuaging cold diseases. Of powders there are one hundred and sixty-five, of which ninety-six are employed for curing hot diseases, and sixty-nine for cold diseases. When these have not the desired effects, several others are recommended. The Tibetians employ twenty-two varieties of pills, and twenty varieties of syrups, of which fifteen assuage heat, and five cold diseases. For increasing strength, and for curing severe diseases, different mixtures are used. One of these is called medicinal butter; various medicines are used so as to form twenty-three varieties: of which fourteen are employed to cure hot diseases, and nine for treating cold diseases. For agues produced by too much phlegm, thirteen varieties of mixtures prepared with calcined powders; and seventeen varieties of syrups for removing morbid heat of the body. For wind diseases there are nineteen varieties of mixture of medicinal wine and spirit, and against any severe

disease of princes, mixtures of precious stones, with twenty kinds of compounds for the cure of opulent men, of which one is prepared against hot, eleven against cold diseases, and eight against both. As the sick in general cannot have the precious stones for preparing these mixtures, certain substitutes are pointed out from the vegetable kingdom that are procurable by all patients. Of such mixtures twenty-eight are intended to cure hot diseases, and fourteen for cold diseases. When these remedies are insufficient in certain diseases, purgatives are to be used to remove corrupt blood, bile, and the relics of certain diseases. Such medicines form three classes as they operate gently, moderately or strongly.

For removing phlegmatic disease by emetics, there are sixteen varieties, of which eight are strong, and eight gentle. They enumerate five gentle and two strong errhines for cleaning the nose, and certain extracts for discharging the intestines, and another kind are supposed to clear the vessels. Blood-letting is employed in hot diseases, and seventy-seven veins are enumerated from which blood may be extracted; caustic is recommended when cold diseases prevail. Poisonous mixtures are sometimes used for the cure of disease. Medicinal baths for diseased mem-

bers are described and recommended, and the frequent use of medicinal ointments in external diseases.

The means of treating fevers produced by derangements of wind, bile, and phlegm, will vary in each case, with the condition of the mental faculties, and other circumstances; these, with the treatment of inflammation, occupy eleven chapters in their medical work. They next consider the means of curing epidemic and contagious diseases, with the peculiarities suited to the country, and the nature of these complaints. The cure of diseases is considered under that of internal or general diseases, of local disease, and of small or miscellaneous disorders, of diseases of infancy and childhood, of disease of the female sex, and of manual or chirurgical diseases.

The diseases of the head are divided into eight varieties, according to the humor affected; and the treatment in each case is varied with the cause and the symptoms. They distinguish thirty-three diseases of the eye, which are treated according to the cause, and the nature of the symptoms. The *ear* is subject to six diseases, and four varieties of deafness, which require an individual consideration before deciding on the treatment to be pursued for the cure. The *nose* is subject to five

varieties of disease, and the mouth has six classes of disease, according as the lips, gums, &c., are affected. There are six varieties of diseases of the teeth, five of the tongue, six of the palate, and seven of the throat. They distinguish eight varieties of goitre, or swelling of the fore-part of the neck, according as it is produced by diseased wind, bile, &c., which varies the treatment to be pursued.

The diseases of the trunk or viscera. There are seven diseases of the heart, which require to be treated according to the cause and symptoms; there are eight diseases of the lungs, eighteen of the liver, five of the spleen, and seven of the kidneys, which differ according to the humor chiefly affected. In all these diseases the treatment must be varied with the cause, and with the symptoms that are present. In treating the diseases of the *stomach* and *intestines* it is necessary to find out whether it is a cold or a hot disease, and which of the five varieties is present, according to the humor that is chiefly deranged. Eight chapters are devoted to the cure of the viscera and vessels, and of the male and female organs of generation.

There are nineteen chapters devoted to the description and treatment of small or miscellaneous diseases. They recognise seven varieties of hoarseness; four varieties of aversion to food;

five varieties of great thirst, hiccough, and yawning; four varieties of difficulty in breathing, and sudden attacks of colic, with eleven less severe diseases. The treatment of each of these forms of disease is varied according as they are hot or cold, and the particular humour affected.

The treatment of diseases produced by worms and insects varies according as they are intestinal worms or external insects, as lice and nits. The treatment of the four varieties of vomiting, the four varieties of diarrhœa, the five kinds of constipation, the four varieties of dysuria, must be varied according to the cause and symptoms. The acute fevers, produced by visiting the plains of Hindostan, of which four are distinguished, are much dreaded by the Tibetian; also the swelling or enlargement of the feet; the six varieties of gout; the diseases arising from the serum, or the watery part of the blood; and from bad and corrupt humours. The small-pox is considered, and its two forms, the white and the black variola, each of which are distinguished by three forms. The other small diseases are a sinking of the senses, diarrhœa, dysentery, vomiting, burns, or punctured wounds, or when a small piece of wood, bone, or iron is swallowed, producing suffocation; when there is an unnatural smell of the body; frost-bite

or chilblains; insects in the ear; and swelling of the mammæ, each of which will require to be treated according to its nature and severity. There are several infectious diseases of the abdominal viscera; and eight diseases affecting the bowels, of greater or less severity; of these dysentery is the worst. There is also the cholera, and diseases of the throat and chest; of the latter eleven varieties are distinguished, and of the former, four, including swelling and ulceration of the throat. The cause and varieties of catarrh are next considered, with its cause, varieties, and means of cure. The treatment of paralysis before the paroxysm, and after its occurrence, is given in detail.

These medical works have six chapters on the cure of internal diseases. In acute fevers the same care is observed as to the causes which vary the symptoms, and explanations are given as to the cause of heat and cold in fevers. In curing fever at its commencement, before, and after the heat has become a prominent symptom; the same peculiarities will vary the treatment to be pursued. Two chapters describe other kinds of fever, internal, mixed, and severe.

The diseases produced by malignant spirits are carefully described, and the means of curing them; eighteen varieties are enumerated, derived from

the Suras and Asuras, with the symptoms of each, and the remedies to be employed in their cure. Insanity is next considered, with its four varieties, according as it is caused by wind, bile, or phlegm. A kind of this insanity called forgetfulness or lunacy, and several varieties of symptoms, are observed, and remedies employed. The cure of paralytic diseases, and the knowledge of the periodical time of their occurrences, are also noticed.

The cure of indigestion, as it is an internal disease, must be varied acccording to the direct or accessary causes, and their effects; the stage and severity of the symptoms will also vary their mode of cure.

In order to dissipate hard swellings, or the conglomeration of humors, it will be necessary to consider the cause, the situation of the swelling, and the manner in which the symptoms are increased, to arrive at the proper method of curing them. For removing colourless, or dropsical swellings, the means will depend on their cause and symptoms.

For the cure of consumption or phthisis, it is necessary to find out the cause, the stage and symptoms of the disease, which will vary the treatment.

Diseases of Infancy and Children. Under this

head are described the means of curing the diseases incident to infancy, with certain superstitious customs, which are performed at the birth of the child. The moment at which it is born is carefully marked, to decide whether it is to be fortunate or unfortunate; and a prayer is offered up for its prosperity, when the umbilical cord is divided, while certain observances are required to ensure its sucking, and enjoying a long life, with other advantages. Several diseases of infants and children are described, with their causes, and mode of prevention and cure, resembling those described in the Hindu medical works. As young children are supposed to be particularly liable to be affected by evil spirits, the means of preventing and removing them are described.

Diseases of the Female Sex are usually described as general, particular, or common. The first, or general disease, is divided into two varieties, as produced by blood or wind. The cure of particular varieties has many distinctions, particularly with regard to the humors from which they arise. The cure of the particular diseases of women, with their treatment at parturition, are carefully marked.

Manual or *Chirurgical* diseases are to be treated

according to the humor particularly affected. Should the *wind* be deranged locally, the part is to be smeared with unctuous substances, and the application of the cautery, to be made according to the Chinese method. When the bile is deranged, phlebotomy and bathing in cold water is to be used; and against *phlegm*, warm applications, and the cautery are to be employed. In all these cases of disease, when the physician is skilful and diligent in the administration of medicine, and the patient is respectful and obedient, he will soon be cured by following the above method of treatment.

The means of curing external diseases, such as wounds, sores and ulcers, will vary with their nature. There are four varieties of ulcers, six varieties of hæmorrhoidal swellings, which are cured by remedies which must be varied with the peculiarities of each kind. Erysipelas and its varieties require peculiar treatment, and the four varieties of cancerous or virulent ulcers, which eat into the parts, the six varieties of swelling of the testicle, the swelling or corruption of the extremities, and the painful diseases of the bones, are to be treated according to the humor involved, and the severity of the symptoms. The means of curing the inflammation produced

by different kinds of wounds, with the means of preventing the consequences of injuries to the external and internal parts of the body, are explained; the former are injuries of the flesh, bone, marrow, tendons, and fibres, and the latter injuries of the viscera and vessels.

The means of preventing the effects of injuries caused by artificial or prepared poison, are explained at great length, from their having been frequently employed. The kind of poison is first considered, its manner of acting, the peculiarities of its effects, the remedies employed, and the order of the cessation of the symptoms. The next consideration is the means of curing simple poisonous wounds, and poison in the flesh. In this case, the kind of poison is considered, with the severity of the symptoms, and the means of curing or counteracting the poison when it remains locally, or spreads over the system.

For curing wounds produced by weapons, we must consider the instrument that has inflicted the wound, the kind of wound, whether a simple cut, or the excision of a part, and the position and parts divided; examining wounds of the head, their extent and nature are to be considered, and the treatment to be pursued; and in curing wounds of the neck or throat, it is necessary to consider

the injury done to the bone, the vessels, nerves, tendons, and sinews. Wounds of the upper and lower parts of the trunk of the body require the practitioner to consider the manner they have been done, the parts implicated, the symptoms, and the remedies to be employed. For curing wounds of the arms and legs require the practitioner to be aware of the importance of the part, the consequences of such wounds, and the best means of treating them. In one of their books, five kinds of chirurgical instruments are described for examining surgical diseases, and for curing them.

CHAPTER III.

MODERN MEDICINE AMONG THE INHABITANTS OF TIBET AND TARTARY.

We have already observed the excellent manner in which the Buddhist priests perform their duties as teachers to the young; and in Tibet and Tartary the practice of medicine is exclusively confined to their priests, or Lamas. They are supposed alone to know the secrets of life, and the means of assuaging the displeasure of God, by their intercessions and prayers.

There are Lamaserys, as that of Kounboum, where there is a faculty of medicine to instruct pupils in the art; and the head Lamas and students proceed every year, towards the close of the summer, to a favourable part of the country, where they remain a fortnight, collecting medicinal plants on the hills. Every morning, after reciting their prayers in common, drinking their tea, and eating their barley-meal cakes, they tuck up their garments, and proceed to the hills under the guidance of one of the professors. Each has a long iron-pointed stick, a small pickaxe, and a leathern bag suspended from the girdle, and they carry on their backs large tea kettles, as the party spends the entire day in the mountains. They return in the evening laden with plants and grasses, and the remainder of the day is spent in cleaning and spreading out on mats the various productions of the vegetable kingdom. Eight days are thus spent in collecting, five days in selecting and classifying the different medicines, and on the fourteenth day, a small portion is given to each student, and the remainder is the property of the faculty of medicine. The fifteenth day is kept as a festival in the form of a banquet of tea, with milk, barley-meal, little cakes fried in butter, and boiled mutton. The medicines are deposited in

the drug room of the Lamasery, where they are thoroughly dried by the heat of a moderate fire, reduced to powder, divided into small doses, which are neatly enveloped in paper, and labelled with their names. The pilgrims who visit the Lamasery, purchase these remedies at exorbitant prices, as the Mongol Tartars never return home from market without an ample store; having an unlimited confidence in whatever comes from a holy place.

The Lamas possess some valuable medicines, which they prepare with considerable skill; and employ efficacious mixtures for curing some of the diseases of the country, often imperfectly carried out, along with quackery and superstition.

The Tibetian physicians are empirical in the treatment of disease. They suppose there are four hundred and forty diseases to which the human frame is subject; and their medical books, the Lamas of the faculty of medicine are obliged to study and learn by heart before they practice; when prepared, they treat in the presence of the professors, three diseases, indicating their characteristics, their diagnosis, and the manner of curing them, to test their knowledge.

The Lama physicians, unlike the Chinese, bleed

sometimes, and cup often. This is performed by excoriating the skin, and, like the Hindus, placing over it a bullock's horn, open at the point. They exhaust the air within by their mouth, and when a sufficient vacuum is obtained, stop up the hole with a pellet of chewed paper. They place great reliance on the state of the patient's urine; and require specimens of it, collected at different hours of the day and night. They examine it with minute attention, and take the greatest heed to all the changes it undergoes in colour. They whip it from time to time with a wooden spatula, and then put it up to the ear to observe whether it makes a noise or otherwise. But they rely chiefly on the pulse, which they examine much in the manner in which a musician passes his fingers over the strings of an instrument. This is unlike the Chinese, who feel the pulses in succession, while the Tartars feel both pulses simultaneously. After due deliberation they pronounce their opinion of the nature of the disease; and prescribe the regulated vegetable specifics, which are administered in the form of powder, either infused in water, or made up in pills. They have only vegetable medicines, and carefully avoid the use of mineral substances. Should the Lama physician have no medicine with him, he writes the name of the vegetable he thinks

proper for the disease, upon a small scrap of paper, moistens it with his saliva, and rolls it up in the form of a pill, which the patient swallows with great confidence as to its success. The remedy, or its name, administered to the sick person by the sacred priest, is supposed to have the same effect.

In Europe, magic and sorcery were long the reputed companions of knowledge, and formed the secret by which men of superior minds contrived to establish their dominion over the multitude ready to take upon credit what they did not rightly comprehend. These disseminators of doctrine imposed belief in supernatural agency, and the vulgar were led to credit what they professed, which they used as a cloak to their more ambitious designs. The pretended efficacy of saints and images served only to blind the weak, and to perpetuate the subjection of the ignorant. The same is now the case in Asia. Even the pundits of India have admitted to me that they despised their mythological fables as so many methods to inthral the ignorant people in the belief of a supernatural agency, as the means of retaining that ascendency over the human affection upon which their temporal hopes were based.

The predominant cause of disease in Tartary is believed to be "the evil spirit;" and when a

disease has been treated in vain with medicine, it is often considered necessary to attack it with spiritual artillery, in the form of prayers. These are varied with the quality of the demon to be dislodged, and the position and riches of the individual. Should the patient be poor, the Lama troubles himself with neither prayers nor pills, and recommends the relations to wait with patience until the sick person gets well or dies, according to the decree of *Hermoustha*, a good spirit, or the *Tchulgour*, an infernal demon. When the person is in indifferent circumstances, a brief off hand prayer, or merely an interjectional exorcism is considered sufficient. When the patient is rich, possessing large flocks, the proceeding is very different. The devil presuming to visit such a personage must be potent, and cannot be removed as a common *spirit*. The Lama finds that the devil is big, and his expulsion generally ruins the patient. The family are directed to prepare for the devil a handsome suit of clothes, a pair of new boots, a fine horse ready saddled and bridled; otherwise the devil will never think of leaving, in spite of the best physic, and the most powerful exorcism. In some cases, when the patient is very rich, the demon is found to be a mighty prince, with courtiers and attendants, all of which are required to be provided with horses, suit-

ably caparisoned. These preliminaries being settled, the Lama calls in to his assistance, from his own and other adjacent monasteries, Lamas who offer up prayers, in the rich man's tent, for days or weeks; or until they have exhausted all the disposable tea, and sheep of the unfortunate Tartar; and if the patient recovers, it is a proof that the prayers offered up were efficacious. Should the sick person die, it is considered a still greater proof of the efficacy of the prayers, for not only is the devil gone, but the patient has transmigrated to a state far better than what he has quitted.

M. Huc* relates thus the treatment of an ague patient. As the female was rich, the rank of the demon was declared to be considerable, and eight Lamas were called to assist. They formed a large puppet of dried herbs, which they called the demon of intermittent fever, and placed it on its legs by means of a stick, in the patient's tent. The ceremony began at eleven o'clock at night; the Lamas ranged themselves in a semi-circle round the upper part of the tent, with cymbals, sea-shells, bells, tambourines, and other such instruments. The members of the family completed the remainder of the circle, squatted on the ground near to each other; the patient kneel-

* Vol. i., p. 76.

ing or crouching on her knees opposite the image. The Lama doctor-in-chief had a large copper basin before him filled with millet, and some little images made of paste, and upon a signal the clever orchestra executed an overture, harsh enough to frighten Satan himself, the lay congregation beating time with their hands to the charivari of clanging instruments and ear-splitting voices. The diabolical concert over, the grand Lama opened the book of exorcism, which he rested upon his knees, as he chanted to the fury; he threw a handful of millet from the basin east, west, north, and south according to the rubric. As he prayed, his tones were sometimes mournful and suppressed, sometimes vehemently loud and energetic. Of a sudden he would quit the regular cadence of prayer, and have an outburst of apparently indomitable rage, abusing the puppet with fierce invectives, and furious gestures. The exorcism terminated, he gave a signal, by stretching out his arms, and the other Lamas struck up a tremendously noisy chorus in hurried dashing tones; all the instruments were set to work; the lay congregation started up, ran out of the tent, one after the other, and running round it like mad people, beating it with their sticks, yelling all the while at the highest pitch of their

voices. Having thrice encircled the tent, they re-entered it, and resumed their seats. While all the others covered their faces with their hands, the grand Lama set fire to the herb figure, and as the flames rose, he screamed aloud, which was repeated by the rest of the company. The laity seized the burning figure, and carried it to the plain away from the tents, and as it was consumed, it was anathematised with all sorts of imprecations, while the Lamas remained squatted in the tent, chanting tranquilly the prayers in a grave and solemn tone. On the return of the family to the tent, the prayers were exchanged for joyous felicitations; and each person, provided with a lighted torch, rushed simultaneously from the tent, and formed into a procession, the laymen first, then the patient supported by her relatives, and last the nine Lamas playing upon the noisy instruments. In this way the patient was conducted to another tent, in which she remained for a month. It was supposed the fever spirit was thus expelled, and through this counter-excitement the fever did not always return.

On the occasion of a severe illness of a great man, he was surrounded by practitioners and holy men; the former to administer remedies to ease and cure the patient, and the latter to offer up

consoling prayers. When a man was attacked with small-pox, several large paintings, representing human figures, in almost every stage of that disease, were hung up in the room, before the Lamas, to subjugate and ease the pain. The patient distributed at the same time charity to poor devout men to ensure the prayers of the gods.

* Turner's Embassy to Tibet, p. 469, *et seq.*

BOOK III.

REVIEW

OF THE

HISTORY OF MEDICINE AMONG THE CHINESE.

THE antiquity of China, its origin, extent, riches, and the vast population of the country, its early progress in the arts and civilisation, and the peculiar form which its institutions assumed, exhibit an aspect different from that of every empire, ancient or modern. Such peculiarities extend to its philosophy and medicine, which deserve a more careful consideration than they have received, and a place in the History of Medicine.

CHAPTER I.

GENERAL REMARKS ON THE CLIMATE, RACE, AND HISTORY OF THE CHINESE.

This great country, extends over thirty degrees of latitude and forty of longitude, or a million

and a third square miles, has a great variety of climate and disease, with a population of one hundred and fifty millions. A considerable proportion of the country is within the tropics, and with its nearly equal days and nights throughout the year, has a long continuance of heat, with tropical rains and S.E. winds in the hot months; a pleasant four months' winter, clear, cool, and without ice, snow, or rain, with little spring or autumn. During the eight hot months, vegetation is rapid and exuberant, and is not very sensibly diminished, excepting for a short time during the brief winter. The comparative absence of malaria, and the bracing air of the winter months, after the great heat of summer, render the cities on the sea coast pleasant and healthy residences for Europeans.

Large communities of settlers established themselves across the plateau of upper Asia from a very early period of the history of mankind, and branches advanced into the south and east of the fruitful plains of Hindostan; and gradually extended their excursions to the fine climate, and fertile plains of China. There they rapidly became rich, and attracted the maritime nations, and warlike Tartars, and Mongolian neighbours, who conquered, and appear to have early intermarried

with them, and at length formed the Chinese nation.

The resemblance of the Chinese to each other is conspicuous: they have the same physiognomy, character, and institutions; the forms of their cities and temples are alike; their dress and modes of life are identical, and even their thoughts seem stereotyped in their classes; proving the homogenity of the race, and explaining the similarity of their social and political laws. Their position in society depends on their education, as it is by learning "the sons of the Chinese poor become great, and without learning the sons of the great are mingled with the common people." They commence the education of the child from the earliest age. Schools are in every village and town, where the scholar is taught to be neat and methodical in his little affairs; and it requires years of diligent application to literary study, to fit a youth for becoming a candidate for distinction. It is unfortunate that the Chinese believe everything ancient to be excellent, and resist all innovations; and much of the student's time is spent in unprofitable scholastic labour. He is required to commit to memory the precepts or sacred texts of ancient sages, particularly those attributed to Confucius, which embrace classical

literature and poetry, laws, morality, and romance. Science is ignored, and years are devoted to practising the composition of essays and odes, which they are expected to prepare during their public examinations; and constant and correct allusions to phrases and apt similies are considered indispensable in the qualifications of a learned Chinaman.

Twice in every three years the youths so prepared are examined in the public hall, before a literary council; a theme is given from one of their sacred works for an essay, and an ode, as an exercise of fitness for a future trial. The best compositions are selected for a more careful examination before a literary mandarin of the department, from which some of the best are selected, and the authors are again examined by a written test, and a few receive the first degree; which may be called the Bachelorship of Arts. These are subjected to a long term of study, and still more rigorous examination, which renders them eligible for any civil post under government, and they are held in high estimation by their countrymen.

The Chinese history exhibits throughout the same barrenness of ideas and dates, as that of the other Asiatic nations. Possessed of a rich and extensive country, they were separated by its geographical position, and still more by their un-

sociable character from other nations. They soon arrived at a degree of riches and power, which admitted of their attending to the refinements of industry and acquirements of genius.

According to the political creed of the Chinese, the God of heaven is a God of goodness and benevolence; and as the emperor is his representative upon earth, he is styled the son of heaven; and this power being delegated to the humblest officer, accounts for the empire being called "celestial." The emperor, as the chief of the whole nation, is consequently venerated; which explains the obedience his officers are able to exact from the people.

This fancied superiority explains why they never deplore a conscious ignorance, and have no desire for a clearer view, or more extended knowledge of a subject, whether it be of a disease or of a remedy. They disregard truth, and filial obedience is the chain which binds the great Chinese nation together. The child lives in complete subjection to the father, the junior families to their chief, and the rights, duties, and privileges of primogeniture are confined to the family of the eldest son, and his descendants. All the religious sentiment which the Chinese possess is absorbed in his veneration for his ancestors. The head of his clan has nothing

to bestow on any other object, and he acts as the high priest of the families of the deceased father, when sacrifices are offered up to the manes of his ancestors.

Upon this theory of despotism, have been engrafted superstitions of all kinds, and a religious creed, which, in other countries, has been a powerful cause of prosperity and adversity, and of the rise and fall of states, has had no political influence among the Chinese. They fancifully pretend that about 3000 years B.C. a horde of Tartars descended from their elevated region to the plains of Shin-sie, at the foot of the mountains, and under the guidance of a succession of intelligent chiefs, changed the pastoral life to one more stationary, by cultivating the soil, and gradually spreading themselves over the present Chinese kingdom. This account represents their having originated from a state of ignorance, roving in forests, without a home, clothed with the skins of animals, subsisting on the spoils of the chase, and on roots and insects, and slowly accumulating knowledge.*

The Chinese are unanimous in their belief in the superior rank of their country over every other nation; they think themselves oracles of wisdom

* See the great work of Toe-ma-tsien, head Commissioner, appointed to prepare a history of the nation. The Hist.: Gen.: de la Chene, par P. Mailla. Calcutta Med. Trans. vol. ii, p. 22.

and of the sciences. On other nations they look with contempt, and that forms a spiritual barrier between them stronger than the great wall. China is thus a homogenous world within itself, and scorns the sympathy of other nations, which are supposed to be mere pendants. The Chinese are industrious, clever, and indefatigable in their endeavour to gain money; they are strong in worldly wisdom, wanting in religious fervour and in moral susceptibility, and from their political education being directed in an improper path, have remained the same from age to age. In these peculiarities they form a contrast to the Hindu, who revel in the vague, the allegorical, and the mysterious; while the imagination exercises little influence over the Chinese. They have no poetic mythology like the Aryans, no sublime monotheism like the Shemites, who developed the faith of Islam, and they were without that richness and profundity of thought, which characterised the schools of India three thousand years ago. Literature remained devoid of that refinement and elegance, that splendour and power which, from the Ganges to the Thames, has for five thousand years characterised the productions of Aryan art and science, whether in the Sanscrit, language, or its derivatives. religious fervour,

Chinese empire had been overwhelmed by successive invasions from the central table-land of Asia, the conquerors yielded in their turn to the arts and administrative system of the Chinese, whom they had subdued; and the machine of Chinese polity, after a temporary disorder, resumed its accustomed action.

Subordinate to the emperor there are six superior tribunals, formed of high mandarins chosen by him, by whom all the affairs of the state are considered, and their decisions are referred to the emperor. The people are absolved from every consideration connected with politics and the government, whether general or local, so that they devote their whole minds uninterruptedly to their particular calling. This explains the stationary state of the nation, and their standing apart from other nations. Their language, history, literature, sciences, and arts, are peculiar, from their hands being free, and their intellect fettered: no science is embodied in the arts, no grace in their forms of structure, and no perspective in their pictorial delineations. They are distinguished by their industry and practical aptitude in the arts, assisted by their excellent perceptive faculty, retentive memories, clear logical minds, without much esthetic taste, or religious fervour,

but are too grovelling to undertake anything arduous or subtile, and too narrow-minded to extend their views beyond their own provinces. The cleverness and ingenuity of the Chinese in the useful and industrial arts has never been surpassed; and their skill in handicraft is proverbial, while they have neglected the study of natural and abstruse sciences as unprofitable.

The Chinese hold learning in high esteem; books are cheap and highly prized, and still they are ignorant of common things. The students are expected to confine themselves to an intimate knowledge of their difficult language, of ethics, and of poetry, as explained by their classical authors. They have no time for historical, mathematical, or philosophical study, or the acquisition of abstract knowledge. They know nothing of the air-pump, the electric and galvanic machine, the barometer and thermometer; of solar light, radiation of heat, and other branches of natural science. It is this want of practical knowledge that prevented their deriving the proper advantage from their early and remarkable discoveries. They knew the use of the magnet, but their ships are of the most rude and clumsy make, and from want of enterprise, they have little knowledge of navigation; whereas their boats for their inland naviga-

tion, are peculiarly well adapted for their uses. In like manner they appear to have been the inventors of gunpowder, the "*fire drug*," but their military prowess is of the most contemptible description. They manufactured paper, and anticipated the greatest discovery ever made in Europe, the invention of printing, long before Faust was born, without any adequate advance in their civilisation, or improvement in their social state.

The Chinese consider Confucius (Kong-fu-tse) the prince of wisdom, and founder or rather remodeller of the state philosophy.* He studied the heavenly maxims of *Yaou*, the stern and simple virtues of *Shan*, and the perfect system of administration, which characterised the golden age of *Yu*, which he modified and rendered more practical.

2. Confucius was succeeded by Tao-ism, the school of the fixed way, followed by—

3. The third system, Fo-ism, or Chinese Buddhism, which is scarcely distinguished from the views of the followers of Confucius and Lao-tse.

Buddhism was introduced about the same time into Tibet and China. It is stated that five hundred Buddhist missionaries proceeded from Cashmere to China about the Christian era, and

* He was born in the year 551, B.C., and *Sakya Muni* died in the year 153, B.C.

by their enthusiasm rapidly converted a large proportion of the Chinese to the fascinating *Fo* or Buddhist religion. This was promoted by the sect avoiding politics and worldly affairs, depending on open-handed charity for their living, and being always ready to succour the needy, and to instruct the ignorant in their worldly wants and spiritual aspirations; which explains why they produced no sensible change in the political and social machinery of the state religion. After Buddhism had been introduced into China, the first care of its teachers was to translate works from the Sanscrit, in which they were originally written, into the Chinese language.*

The Chinese declare that the Emperor Ching-nong, who flourished B.C. 3216, introduced the use of corn and edible plants for the nourishment of his people, and medicinal herbs for the cure of diseases. He is supposed to have examined the qualities of medicines, and with such success that the longevity of his contemporaries is supposed to have proceeded from the excellency of his remedies, and the system established by him has been generally followed. So satisfied are the Chinese of this, that when the practitioner has found out the nature of the disease, he knows,

*Muller's Buddhism and Buddhist Pilgrims, p. 24. London, 1857.

from these precepts, what remedies are required for restoring the patient to health. Should such specified remedies, however well selected, be applied at a wrong stage or type of the disease, they may do harm; and should the disease prove fatal, after following the prescribed form, it is the person's destiny.

The government take no notice of medical practitioners, unless when any one exercises the profession of medicine and surgery, without understanding them, and administering drugs, or operating with piercing needles, or cutting instruments, in a manner contrary to established rules and practice, thereby causing the death of the patient. In this case the magistrate shall convoke other practitioners to examine the nature of the medicine that they have administered, or the wounds they have made; if it shall appear that the physician or surgeon has acted only in error, and without any malicious intention, he may, by a certain payment, obtain remission of the punishment inflicted on a homicide, in the manner established for cases of killing by accident. In this case the physician or surgeon shall be compelled for ever to quit the profession.* Should it be proved that he had deviated intentionally

* Penal Code of China, section 297, quoted by M. Huc. See also the Chinese Empire, vol. ii., p. 28.

from the prescribed rules to extort money, and the patient die, the money shall be considered as stolen, and the medical practitioner be treated as a thief, and be decapitated. This must be considered an unjust law, as the most honest and intelligent practitioner may be rendered liable to the extreme punishment in the conscientious discharge of his duty in treating diseases; and renders the Chinese practitioner often culpably circumspect and cautious in affording relief to the sick and wounded. It also explains the neglect of observation, and the absence of all change and improvement in practice; and medicine, the most important and difficult of all the sciences, is still in a rude and empirical state among the Chinese.

In the flat plains of China, which are often irrigated, malaria is powerful in certain seasons, and diseases of a periodical character are frequent, with scrofulous enlargements and leprosy. Canton and Macao being free from marshy effluvia, dysentery, and nervous depression are there more common; while hooping-cough and croup are scarcely known, and acute bronchitis, pleurisy, and pneumonia are rarely seen in the south of China. The climate is trying to young children, from the dampness and sudden alterations of temperature; but those of foreigners can remain much

longer in China, than in other parts of Asia, particularly during the time of teething. It is unsuitable to persons with weak lungs, or of a rheumatic diathesis; and the changes of the weather are enervating to residents accustomed to the tropics, especially those of a nervous excitable temperament, or who have been subject to periodical diseases.

In the north of Asia, the inhabitants are subject to the inflammatory affections of the breathing organs, and to cutaneous diseases from the want of frequent ablution, and from wearing the same wadded clothes for months without changing them, or wearing under garments. Small-pox is mentioned both in the Chinese and Tibetian medical works, and appears in the spring months; cholera and infectious fevers in the hot months; and diarrhœa and dysentery occur at all seasons, particularly in summer and autumn. Cachetic and asthenic diseases are common everywhere, from insufficient food and foul air; tumors and calculus diseases are common in the south. The vigour and activity of the people of the north are superior to those of the inhabitants of the middle province of China, from the malarious influence, which produces apathy and timidity. Here, also, inflammatory diseases assume a more asthenic character,

and rarely require V.S.; and dysenteric symptoms are best treated by astringents. Generally no distinction is observed between the acute and chronic form of this disease, and much harm is done by the treatment followed. It is when Chinamen have failed in their public examinations, that they sometimes direct their attention to more practical studies, as of medicine; which they learn from some of the practitioners of physic; and when their efforts are directed to one such subject, they often excel in it. As they have no love of knowledge for knowledge's sake, and plants not possessing properties useful for medical or culinary purposes are often not prized for any other quality or peculiarity they may possess.

As the Chinese learning is confined to the subjects treated of in their competitive examinations, and as medicine was not included, it was left in a low and neglected state, from the heads of the empire having derived their rank from the scholastic learning; and these practitioners confined themselves to practical observations. As no laws regulate the medical profession, there could not be either a proper appreciation of the science, nor strong desire manifested to make advances in its social or moral condition. The Chinese often suppose medicine of no use, but in accordance with

the impenetrable designs of heaven; which explains the doubts in which it is surrounded, the uncertitude of its predictions, the appearance of new diseases of epidemics, with the general crisis, sudden symptoms, which escape the acutest penetration, and render useless their most energetic efforts. Man is unacquainted with the origin and course of disease. All is mysterious. He sees the wonderful instrument, knows the names of the strings, and tries in vain to explain the vibrations of the notes which form the harmony. It is beyond his comprehension. Besides man's days are counted, his career is immoveably fixed, without any hope that medicine can change it, as each life is a ring of the great chain of the world, of which all the proportions are determined and immutable. Medicine cannot save life, and still its duties are most important, as it serves to prolong existence, to cure numerous diseases that attack poor humanity, fortifies morality by encouraging virtue, and persecuting vice, that mortal enemy of health, and consolidating states and people by their experience and hygenic precepts. (Sien-tche.)

The practitioner of medicine obtains too little honour or emolument to excite emulation in men of rank and ability in the pursuit of it. The most

distinguished practitioners are often the ignorant priests, as the sick Chinese quickly resort to propitiate one of these, which have a special control over them. Like other ancient races, the Chinese believed in one living, bounteous and paternal providence; whose earthly shadow they supposed sat exalted upon a throne over the middle kingdom; "All things in the world," says Choo-he, "seem as to their primary tendencies to issue from the one; the one however is not really in a condition to bring them forth;" duality, the active visible cause of all advancement, and the foundation of the present order of the world. The examination of the people is in the hands of the imperial government, and they had less influence in curbing their wayward nationality. The Chinese adhered as closely as possible to the language of their sacred writings, (King). They only recognised a common symbol and confession of faith, have initiatory rites, and form a separate and sacred corporation.

It is traditionally stated that Houang-ty (B.C. 2637) formed the knowledge of medicine into a system, the epitomy of which has come down to us under the name of kuei-king. It is probable that Chang-ke (about A.D. 229,) first cultivated the science of medicine; as all medical works

before that time do not recommend the preparations and mixture of medicine; a sufficient proof of the little attention that had been paid to the cultivation of the healing art. The medical books are numerous in China, and are often mysterious and inscrutable, being based on the supposed superior light and experience of the ancients, and are full of erroneous theoretical knowledge of hot air and cold, the dry and the moist, the superior and inferior influences, &c. In general their medical works abound with recommendations regarding the choice of fortunate days and hours in treating diseases; and their written directions for the treatment of diseases are not in accordance with our ideas of what is right. The most singular expedients, and strange medicines are combined with remarks founded on good sense and experience. This is explained by some of these works being prepared by shrewd practitioners, and often contain useful practical hints, combined with fantastic ideas of physiology.

But the Chinese imperial work, (E-tsung-king-kass) having been revised, and republished by the physicians of the Royal College, in obedience to an imperial order, who "assure the emperor, that by intrusting them with the reform of the healing art, he shows his benevolence to the great, as vast

as the heavens, for by this act, they declare that he conferred longevity to a thousand ages." But ignorant of anatomy, they apply theory to explain the phenomena of the human body, and are persuaded there is a close connection between them and the motions of the heavenly bodies.

The work named *Chag Sang*, or long life, contains a treatise on diet and regimen, which is discussed under the heads of the passions, diet, the actions of the day, and the rest at night. An essay on botany and materia medica (Pim-tsaon), which includes various particulars of the animal and vegetable kingdoms; and another entitled "an approved marking line of medical practice (Ching-che-chum-ching)." This celebrated work is in forty volumes, seven being devoted to nosology (Tsa-ching); eight on pharmacology (Lug-fang); five on pathology (Shang-han); six on surgery (Wae-ka); and the remainder on the diseases of women and children (Yew-nen-ko).* Such a division proves their theoretical was more attended to than practical precepts. The practitioner consults one of these old codes of medicine on any cases of difficulty occurring, and carefully follows the prescribed directions.

Some authors of medical works in their ignorance

* Proceedings of the Asiatic Society, part vii., p. 154.

of the science, suppose they can avert and cure diseases by diet and regimen, without the assistance of medicines or practitioners; but the irregularities of man, and the nature of the climate will always produce diseases, and will require practitioners to administer to them. The Chinese know this, and much knowledge might be expected from the extent and riches of China, and the remarkable progress they have made in the arts, manufactures, and agriculture. But with the exception of a few valuable facts, well adapted for practical purposes, the details are calculated to impress an unfavourable opinion of their general knowledge. Their medical books contain much nonsense regarding the pulse; combining falsehood with folly.*

During the long and distinguished reign of Kang-hy, an endeavour was made, with the assistance of the able Jesuits, to improve the arts and sciences of China, especially that of medicine, which had long been in a neglected state. The want so much felt was not so successful as it might have been, as much importance was given to dissection of the human body, and the prejudice of the Chinese was strong against such a study. Had

* This was the opinion of Dr. Hobson, who was eighteen years practising there, and had mastered the language. Medical Times and Gazette, Nov., 1860.

this important study been less attended to, and the physiology and practice of medicine and surgery more practically enforced, more success would have attended the measure. Several books on anatomy were published under the patronage of that enlightened emperor, with small practical advantage; and so little is still understood that the Chinese often put more faith in spells and charms, than on professional science, unless the medicine is taken on a lucky day. Kang-hy died in the year 1722, and during the minority and reign of his successor, the banishment of the Jesuits put a stop to the improvement of China; and as the succeeding emperors would neither tolerate the Christian religion, nor give any encouragement to the introduction of European science, the Chinese people for a time lost all their European enlightenment.

The ignorance of the modern Chinese practitioner in any unusual complication of disease becomes well marked. An interesting example was stated during Lord Macartney's Embassy, when the Calao or vizier of the emperor fell sick. This was considered by the Chinese physicians as having arisen from a malignant vapour, which had insinuated itself into the frame, and flying from one part of the body to another, had caused the distressing symptoms. With the view of allowing the air to

escape, they had made deep punctures with gold and silver needles, which caused exquisite pain, without any relief. Dr. Gillen found the indisposition to proceed from rheumatism, combined with a hernia, which was soon relieved by the assistance of the European physician.*

CHAPTER II.

EDUCATION OF THE MEDICAL PRACTITIONER, HIS QUALIFICATIONS AND DUTIES.

In consequence of the restricted nature of the Chinese education, and being content with merely repeating, and never varying the form of learning, or attempting to enlarge its boundary, their education produces no salutary improvement. Even Confucius confined himself to insolated objects, and had no influence in advancing civilisation.

The Chinese have a medical hall at Pekin, for the local improvement of medicine, and instruction of the higher class of practitioners for imperial purposes. For it youths were selected

* See Stanton, vol. iii., pp. 55, 61.

chiefly from the families of the medical profession, as they were accustomed to attend the sick, and were supposed to possess cherished medical receipts. These students are allowed to practice on prisoners, and with this elementary knowledge they enter the hall or college; the professors of which are arranged into grades; fifteen being imperial physicians, forty inferior practitioners, thirty apprentices, and twenty apothecaries.* The selected physicians watch over the health of the emperor and his household, and the great officers of state when sick; and on these occasions relays of horses and camels are allowed, and travelling expenses, when they are sent to a distance. There is also a board of health, which is intended to watch over the working of the medical art in the city, to prevent all irregularities in the proper method of curing the different classes of disease, by superintending the subordinate medical officers; but without any examining powers. Dispensaries or native hospitals exist in some of the chief cities of China, where the poor receive gratuitous medical aid, from practitioners in the pay of the state. (Lockhart).

Without the means of acquiring anatomical or physiological knowledge, no advancement is

* China Opened, vol. ii., p. 328. London 1838.

made in the improvement of medicine. A degenerate class of the priests of *Fo* and *Taotse* employ chiefly charms and sudden agitation in order to drive away evil spirits, which, they declare, produce disease. For this purpose, they fire off crackers; or oblige the patient to leap out of bed, and run about the room, to drive out the spirits. An inferior order of these quacks, like those in Europe, distribute hand-bills and post up placards about towns and cities, in commendation of themselves and drugs. Some of their remedies are useful. The number of medical practitioners in cities and villages is often large. There are computed to be two thousand in Canton alone. Many of these are poor and ignorant, and follow the medical art as the easiest means of acquiring a livelihood; and being associated with quacks and mountebanks, they are held in little repute, and their fees are very small.

One class of practitioners devote themselves to particular classes of disease: some treat cold and others hot affections, diseases of the eye, &c.; some practice acupuncture; others suck abscesses, and thus act as living cupping-glasses. Among such a people, individuals are sometimes found who become able practitioners, and are much

respected,* as their natural sagacity and experience are occasionally displayed, and sometimes they perform remarkable cures. Many of them by following their own convictions, are successful in their treatment of the sick, and acquire the confidence of their countrymen. Foreign residents, in provincial cities, have obtained much relief, when sick, from Chinese prescriptions, and in some cases they performed a cure when the patient had been given over as hopeless.

The Chinese practitioners are not always paid by the visit, but by the medicines they recommend; and their price is enhanced in value by the practitioner, and diminished by the patient and his friends. The remedies are often given on credit, and at the end of the cure they are paid only for such medicines as have really been of use. One of the better class of practitioners in cities visits his patients in a sedan-chair, at a fixed hour before breakfast. The chief person of the house receives him. Tea and a pipe are first offered, and he is then requested to examine the pulse of the sick person. When this has been done, he asks a few questions, and having got an insight into the complaint, explains the nature and result of the disease, prescribes the necessary medicines, and receives his fee

* Chinese Repository, vol. i., p. 343.

wrapped up in red paper, and called "golden thanks." It varies in value from two shillings and sixpence, to five or six shillings, according to the reputation of the practitioner, and the means of the patient: the chair-bearers also receive a present. The practitioner does not pay another visit till invited, as they have little faith in the professions of the practitioner, unless evident benefit is derived from the medicine. Another and another practitioner are often called in, until relief is obtained; and in severe diseases, the Chinese, when dissatisfied with medicine, have recourse to a genus, or a god called Jopuongchô Said, a distinguished physician, celebrated for his healing powers, who was deified after death. This god of medicine is also propitiated by vendors of drugs.

Should a disease be very dangerous, or the patient old and infirm, it becomes a question with the friends and relations whether or not he is worth the expense of the remedies that will be required, and they often rather spend the money in purchasing a fine coffin. Under these untoward circumstances, it is an interesting fact that from the fine climate, simple food, and active habits, the mortality is as small in China as in Europe, and as many old people are found there as in the higher state of civilisation in Europe.*

* Chinese Empire, vol. ii., p. 22.

The originality of the Chinese sometimes entitles their crude and unconnected notions to attention. Many of their medical ideas and superstitious fancies possess a remarkable affinity with those which formerly existed in the most civilised nations of Europe; and it is curious to observe the effects produced by the working of the intellect in the mass of human beings, separated as they have been by their prejudices from intellectual intercourse with Asiatics and Europeans, particularly as that their opinions have not been influenced by the discoveries of other nations.

A good translation from the English to the Chinese language has lately been made of an anatomical and physiological work, and as it is extensively read by all classes of this shrewd people, will prove a good foundation for a radical change. It will be followed by another translation on the principles and practice of surgery and medicine, including a treatise on midwifery and puerperal diseases, and infantile affections. Among such a people these works will be found most useful, and already they have republished a large edition for general circulation, and the Chinese commissioners have sent many copies to Pekin, and other places. There is likewise a demand for them

in Japan. Doctor Hobson deserves great credit for these philanthropic labours.*

CHAPTER III.

CHINESE COSMOGONY, WITH REMARKS ON THEIR ANATOMY AND PHYSIOLOGY.

Like the Hindus, the Chinese are supposed to have been originally placed in this world in a state of intellectual and bodily health and purity; but during their residence here they became wicked and depraved, and subject to disease. In this state of weakness and suffering, holy men were selected to intercede with the deity, to strengthen their bodies, and alleviate their sufferings. This was granted, and books were prepared, with the divine assistance, for the instruction of mankind. These sacred books are by the Chinese named "king," or "the book," upon which they add "their civilisation was founded, which penetrated to the depths of metaphysical discussion, and taught the truth." *Fuh-hu*, the reputed founder of the Chinese civilisation, is said to have been the author of the

* See the Annual Report of the Chinese Hospital at Shanghae for January and December, 1858. Shanghae, 1859.

oldest sacred book *Yih-king*, which contains obscure speculations on the nature of the universe in general, the harmonious action of the elements, and the periodic changes of creation. The second sacred work contains the spiritual developement of the middle kingdom: the third the general course of Chinese civilisation, and there is another on the rites and manners of the Chinese. These sacred books have a strong resemblance in many particulars to the sacred vedas of the Hindus.*

Another class of books do not rank so high, being produced by sacred sages, who rose to the full perception of religious truth, and practised all the higher virtues, which they attained after a course of painful, and assiduous cultivation.

Reason as well as tradition led the Chinese back to the primitive conception of the unity of God, the bountiful and paternal being, the creator and preserver of nature, who formed the world. They believe the basis of all life is one, which forms the ultimate principle of rest and motion; yet duality is the active visible cause of change and advancement, and the foundation of the present order of the world. One of the entities or essences

* Panthier (Chine Paris, 1839,) is of opinion that the 'kings' bear a strong resemblance to the '*vedas*' in the general character of their contents. "Non pour le contenu mais pour l'espré du contenu;" and adds that this conformity, "n'est peut-être pas purement due au hasard."

le, is the power or cause, the other a mere passive something *ke*, upon which that power operates. This active ethereal power of the universe *le* is without the distinction of form and figure, and the other or passive material essence *ke*, upon which the first operates, and out of which forms are evolved, consists of five elements, earth, metal, water, wood, and fire. These elements are eternal, and are so essential, that one is necessary to the true subsistence of the other. They also suppose that the mental and moral nature of man unites him with the absolute, the *le* from which proceeds all ingredients, both of rationality and order, and with which the spirit of man is strictly one and consubstantial. He is naturally virtuous, as water flows downwards; but by beating water, it may be made to splash over your head, and if violence be applied even over a mountain, so man may be made vicious.

The *ke* is considered dual, and is represented by a positive vital heat *(yang)*, the celestial male principle, and a negative radical moisture, *(yin)*, the terrestial female principle. The heaven is considered the highest manifestation in which *yang* predominates, and the globe, the highest form of *yin*. A transcendental union and coagulation takes place between these ultimate principles, and the two

essences and the five elements form organic bodies. When the first or positive essence *(yang)* predominates, it produces the masculine power, and the *(yin)* the female power. By the mutual influence, and the constant evolution and iteration of these opposite essences is produced every variety of objects, and the different proportions of each give character to every grade of creation in the visible world. *Yang* evinces its force in every kind of progress; *yin* in every kind of retrogression; the former predominates in the active movements of spring and summer, and the latter in the passive, drooping, and inert phenomena of autumn and winter. The sun is likewise considered *yang*, and the moon *yin*; and similarly the male and female energy of light and darkness, strength and weakness, &c.

The Chinese believe that the universe consists of three great divisions; the sky above, the earth below, having snow in its upper part, rain in the middle region, and lakes and bogs below; and man between them, participating in the nature of both.

The respect the Chinese had for the departed, and their rooted aversion to touch a corpse, and still more to cut and maim it, applied with even more force to the living body, and prevented their wounding it even to save life. This led them,

in many instances, to preserve with scrupulous care the bones of their ancestors, which must have imparted to them a certain knowledge of osteology; and the little value they put on life, and the constant cruelty perpetrated on culprits, must have afforded the inquisitive a general view of the viscera of the chest and abdomen, with their relative positions and general uses. Such an imperfect knowledge of anatomy, explains the vague and fanciful ideas of the Chinese in physiology. The human body being considered as a *microcosm*, in addition to the physical framework formed of the five elements, is endowed with five qualities or virtues, and the dualistic theory explains the phenomena of the human body, and the production of the species. By this the male and female energies are explained, and the qualities of medicines are arranged. The principles of life or vital heat are hot, warm, and expansive, belong to *yang*, and are situated in the intestines, gall-bladder, and uterus; while radical moisture, and taste, whether sour, sweet, acid, or salt, are considered as the spirit of the blood and its vehicle, belong to *yin*, or the female agency of nature, and are contained in the muscles, heart, liver, kidneys, lungs, spleen, and vital parts: such parts or qualities as possess strong properties belong to the

yang, while those with mild properties partake of the *yin*, or female principle. The proper proportion or equilibrium of these elements gives health, and a larger proportion of one over another produces individual temperaments, and a proclivity to particular diseases, without inducing them; and the variations in the pulse indicate these changes. A certain inequality of the elements produces the peculiar type and nature of the disease. Thus, water in excess diminishes health, from the absence of the proper proportion of fire, and a certain excess of the one will extinguish the other, producing yellow dropsy if the liver is particularly affected, and red dropsy should it be the spleen.

"Thus interdicted by law and public opinion from studying anatomy, the Chinese knowledge of the position, form, and uses of the viscera is often of the crudest and most erroneous nature. The *liver* ranks next the heart, and is the seat of the intelligent soul; and from the gall-bladder emanate bold determinations. The third essential organ is the *lungs*, but their functions of organising and purifying the blood, and removing the superfluous carbon, are unknown to them. In the centre of the thorax they placed the *vital soul*, the breath *ke*, whose appearance at birth announces his arrival

into the external world. The kidneys, the spleen, and the stomach form the other essential organs.

Like the Greeks, the Chinese supposed the arteries to contain air, and had no name or correct distinction for the arteries and veins; not having observed the valves of the veins, the capillary vessels, or the change of the blood in the lungs. They, however, made a distinction in favour of medical jurisprudence, which was one of the subjects of their competitive examinations, and is carefully studied. In all cases of sudden and violent death the body is examined externally, from which they draw their conclusions.

A very general opinion is that the form of the forehead is the most characteristic feature in the male, while the female is known by the shape of the back of the head. The brain is not included among the other organs, being considered the mother of the spinal marrow. They scarcely make any allusion to the nervous, fibrous, or muscular structures, are ignorant of the functions and diseases of the nervous system, and suppose the trachea to be divided at the upper part of the thorax into seven secondary canals, four of which are distributed to the lobes of the left lung, one in the centre to the heart, and two on the right side to the right lung. From the heart proceed three canals to the abdo-

minal viscera, one joining the kidney, a second to the liver, and the third to the spleen, which is supposed to occupy the right side of the abdomen.

In modern times, the importance of a knowledge of anatomy, and intercourse with nations who considered it as the foundation of the profession of healing, induced them to prepare a few rude inaccurate plates to assist in its study, which are supposed to give a general outline of the organs; exhibiting what they suppose ought to be there, rather than what they have really seen. It is stated that *Wang Wei* wrote a book on anatomy, describing the anatomy of the human body, as exhibited by a copper model, in Pekin, said to be extremely rude and imperfect. Anatomy is not taught at the imperial college.

They divide the human body into two halves, each of which has one eye, one arm, shoulder, leg, foot, &c. They likewise divide the body into three parts, a high, a middle, and lower parts. The first reaches from the head and neck to the upper opening of the stomach, and comprehends the head, lungs, heart, and its envelopes, &c; the second, or middle part, extends from the upper orifice of the stomach, to the middle of the abdomen, (umbilicus), and includes the stomach, spleen, liver, &c.; and the third, or lower part, extends from

the middle of the abdomen to the feet, and is made up of the kidneys, bladder, ureters, intestines, &c. A sympathy between the tongue and heart, nostrils and lungs, mouth and spleen, ears and kidneys, eyes and liver exists, and explains the symptoms of disease; also between the members and the intestines; the small intestines and the heart, the gall-bladder, the liver, and the ureters and kidneys. On the right side the large intestines are connected with the lungs, the stomach with the spleen, and the third part of the body with the right kidney, in which the blood is supposed to change into semen, and this organ is consequently called the gate of life, and said to contain vital heat *yang*, and vital humidity *yin*. The organs of the body are supposed to be the chief seat of the vital heat, and radical moisture, which pass to other parts of the body through the vehicle of spirit, wind, and blood. One canal proceeds from the mouth to the hands, which join to make one of the sources of life; the liver sends radical moisture to the feet, and the intestinal canal and gall-bladder convey the vital heat by another passage. There is also a connecting canal of the vital heat between the great intestines, stomach, kidney and uterus; of radical moisture and the lungs, spleen, and feet.

From the gate of life the radical moisture is connected with the hands, and the third part of the body to the feet. Thus life and vigour are supposed to be distributed through the body, and the successful practitioner must know the six sources of life, produced from the twelve organs, their passages, canals, and conditions.

It is by these conditions and sympathies they explain many of the phenomena of disease, as the temperature of the body, the colour of the face, eyes, nostrils, and ears, the sound of the voice, the pulse, and the condition of the tongue, by which the practitioner can detect the nature of the disease, the temperament, and the condition of the sick person. The physician should first ascertain which of the five elements have gained ascendancy over the others; and after he has discovered this by a careful consideration of the pulse, of the state of the eyes, the tongue, and the countenance, he next considers the means by which the ascendancy is to be overcome; and the elements are either restored to their equilibrium, which constitutes health, or the person is doomed to death. Thus the five elements, *earth*, *metal*, *water*, *wood*, and *fire* have each a sympathy with one of the chief organs of the body. *Fire* predominates in the heart and chief viscera, with which it sym-

pathises; and *wood* with the liver and gall-bladder, and both are relative to the east, from which wind and vegetation proceed. The kidneys, bladder, and ureters belong to *air* and *water*, and the north; the lungs, where *metals* preside, to the west, and the stomach is of the nature of the *earth* and the south.

Distorted eyes and mouth arise from the prevalence of wood over the metals, which contracts the muscles; under such circumstances, the earthy qualities are discharged from the interstices of the organs, the eyes become hollow, and the muscles contracted.

Phlegm is supposed to be formed by the chyle of the stomach, from want of *ke* to refine it; when it accumulates in the lungs, and over the body, the various kinds of expectoration and swellings proceed from it. In all these cases the *ke* of the stomach must be strengthened.

In addition to its physical frame-work, the human body is supposed to be endowed with five qualities or virtues corresponding to the five elements of the Chinese cosmogony. These constitute the mental and moral nature of man, and unite him to the absolute *le*. Between these principles there is a mutual connexion and harmony; and as long as the five elements, and *yang* and *yin*,

are maintained in equilibrium, the individual enjoys good health; but should one of the elements predominate over the other, or a weakness of either *yang* or *yin* occur, disturbing the equilibrium, this deranges the functions of certain organs, and produces the uneasy feeling of sickness in our organization. Diseases caused by these derangements, are accompanied either by an excess or deficiency of heat, cold, or moisture; and medicines employed to correct such irregularities restore the healthy equilibrium. Other diseases are supposed to be produced by errors in diet and undue exercise, by which the circulation of the blood is impeded and vitiated.

Heat, particularly dry heat, acts powerfully and unfavourably on the elements of the body. Headache, accompanied with warmth, thirst, and dejection of spirits arises from the fire of the heart ascending into a flame, drawing up the aqueous element, and injuring the lungs. In such cases, the pulse must be carefully examined, and suitable specified remedies will generally prove effectual. These act by introducing cold, so as to lower the heat, and restore moisture to the members. For this purpose, the water in which gum has been boiled, cucumbers, and water melons are to be given; and when the person is faint and cold,

aromatics and honey in a liquid sherbet are administered, as the patient recovers. In like manner face-ache is ascribed to the condition of the *yang* in the part; and chest complaints to the want of *ke*. The causes of disease must therefore be found out, and they are to be treated accordingly, but wine and aromatics may generally be relied on.

The Chinese explain respiration by their theory regarding dropsy. Throughout the human body is the vivifying ethereal fluid *ke;* and water, like air taken by the mouth, is either evacuated in the ordinary way, and absorbed by *ke*, or during hot weather, is evacuated by perspiration. When grief oppresses the individual, the water appears in the form of tears and saliva. But when *ke* is evacuated, the water is obstructed in its progress, accumulates, and gives rise to dropsy, which they erroneously suppose is cured by the removal of the water. When blood is evacuated, fire prevails, and as there is nothing to nourish the senses, ulcers form in the back. The heart, from its functions, is the most important organ. In it resides the sensitive soul; and it is held in a kind of subjection to several other viscera, with which it communicates. The Chinese have no distinct conception of the circulation and functions of the blood-vessels, or even of the difference between the arteries and

veins; and each writer varies his description to suit his own fancy. The blood and spirit of the body are supposed to be continually moving and striking against the sides of the vessels, which by its resistance produces the pulse. Any change in this force disturbs the flux and reflux of the blood and spirit, the dispositions of the body, and the modifications of the elements upon which disease depends. By such changes in the pulse, the physician knows the state of the blood and spirit; and it is his province to equalise its defects, or the excesses of the elements, and thus restore the body to its healthy condition.*

The blood in the human body has the property of vital heat *yang*, and the radical moisture *yin*, which are lodged in the heart, right lung, spleen, and right kidney, the supposed gate of life. The *yang* is contained in the arteries, and circulates throughout the body; while the *yin* is contained in the veins, moistening the bones and sinews, and nourishing the soul. The blood of the heart, exuding from the body, produces perspiration, which is its serum, and many diseases are produced by its retention, or too copious discharge. The blood is supposed to pass through the vessels and spirits without; and the circulation ought to make five rounds in a day and night.* Such

* Duhald, tome iii, p. 385.

fancies, under various names, have bewildered the reason of the most enlightened nations of antiquity of both Asia and Europe.

The Chinese thus reason on natural objects, much as the Hindus do, concerning the agreement and disagreement of those elements of the body, which produce the actions and diseases to which it is liable, and by which the circulation is regulated, (Tow-pien). In the pristine ages the Chinese sages are supposed to have profited by a knowledge of the mechanism of the human body; and physicians possessed the secret of increasing strength and prolonging life, by a renovation of the premordial air, and by the transfusion of blood. In this modern degenerate times, medicine consists in feeling the pulse, examining the sick, interrogating them, and listening to their history. The experienced physican will relieve the symptoms of derangement of the elements, by rousing the opposite passions; as sensible men curb their passions, and maintain the equilibrium of the elements, and so retain health. Thus respiration is quickened by anger, retarded by joy, lessened by a feeling of commiseration, lowered by fear, contracted by cold, expanded by heat, disturbed by alarm, shortened by labour, and impeded by thought.

They also fancy that particular tissues are produced from certain elements, bones being produced from metal and ducts, as the rectum and urethra, hepatic and panchriatic organs, and perhaps that of the spleen are formed from wood, &c. It is from an eagerness after an apparent system, which is felt among ignorant and superstitious individuals, that such whimsical opinions are arrived at, when dabbling on the surface of metaphysics.

Fire is formed within the body, producing appetite and digestion, and if in excess may destroy the organs, as live coal may dry up unduly the earth, burn the wood, or even calcine metals, &c. To reduce the heat to its right proportion, and so arrest irregularities in this and other elements; by reducing what is in excess, adding to what is too scanty, and giving the right form and direction to each. But in many cases the derangement is so great that the equilibrium cannot be restored, and the physician must confine his efforts to regulating the outworks. Thus the small-pox cannot be so cured, as the elements have been deranged for generations, and these irregularities having been accumulated in the stomach, pass to the surface. If the morbid matter is quickly developed, there is less danger;

but it will prove fatal should it smoulder, and passed out slowly and imperfectly.

The scheme of the Chinese physics also, like that of the Hindus, and of Pythagoras, relies much on the influence of numbers, particularly five and its multiples. There are five planets, Saturn, Jupiter, Mars, Venus, and Mercury; and five simple bodies or elements, earth, wood, fire, metal, and water. There are likewise five directions, the middle, east, west, north and south; five colours, yellow, green, red, white, and black; five organs, the heart, lungs, liver, kidneys, and stomach; * five membranous viscera, the large and small intestines, the stomach, bladder, and gall-bladder. The Chinese likewise distinguish five tastes, sweet, sour, bitter, pungent, and salt. These principles are eternal and essential, of which all bodies are made up; and by means of the active powers, in union with the productive and unproductive principles, the world is supposed to be regulated.

The five organs sympathise with the elements; the heart sympathises with the element of fire, lungs with metals, the liver with wood, the kidneys with water, and the stomach with earth. The

* By a curious perversity, the Chinese place them on the wrong side of the body.

heart is considered as the most perfect of the organs; it is called the husband, the lungs the wife, and is fancifully considered the brother of the small intestines; the liver being the mother of the heart, its sons being the stomach and spleen, while the left kidney is its antagonist or opponent, and the liver its friend.

The Chinese, like most other Asiatic nations, consider it improper as well as unnecessary to study practical anatomy and physiology, since the precepts of their philosophy were received from supreme authority, which explained everything regarding the corporeal and spiritual state of the human body as infallible truths, and sufficient for all practical purposes. To doubt this would be considered impious. Besides, the dead body is regarded by the Chinese with superstitious dread, heightened by their extreme reverence for the departed, and the dissection of the human body is prohibited by law, and any one attempting it would be put to death. Their knowledge of human anatomy and physiology is therefore of the most scanty and erroneous nature. The brain is supposed to occupy a small and central portion of the cranium; and the heart, "a reservoir of good things," lies low in the thorax. Into this the windpipe is supposed to pass directly, and from

below, the tube of the second, or elective stomach, enters the thorax near the windpipe. One vessel proceeds to the liver and left side, and another divide into two branches, one of which enters the spleen, and the other the kidneys, and one terminates in the genitals.

These vessels proceed from the hand to the head, and three from the head to the feet. Three female vessels proceed from the bowels to the head, and three originate in the feet, and pass to the intestines. Besides these vessels there is a pulse-artery, which moves every three inches, and circulates in two minutes. The contents of the veins flow day and night, but the Chinese do not admit that there is a circular onward motion, or that the arteries communicate with the veins, but with separate receptacles, the heart being the ruler of one of them, and consisting of a single cavity, from which the spirits proceed, extends its influence over the senses, and secretes the blood without any direct connection with the vessels. The receptacle of the marrow is the brain, and it proceeds to the reproductive organs. The lungs regulate the temper; the liver contrives and orders; the spleen is the messenger; the stomach the granary of the body, and governor of the tastes; and the kidney the ruler of strength.* The veins and arteries

* See Dr. Wilson's Medical Notes, 1846.

may be considered like a musical instrument, the parts of which give out different sounds, and produce peculiar temperaments, different pulses which are produced by the continual flux and reflux of the blood and vital spirit. Each part of the body has a distinct pulse, and there are two hundred of them, which mark the peculiar state and disposition of the body, as a string more or less stretched, and touched in different parts, give different sounds.

There is likewise a sympathy between the twelve dispositions proceeding from the twelve inward organs. The head is the seat of the senses, that perform animal operations, the sources of life, and there is an agreement between them.

CHAPTER IV.

MEDICAL JURISPRUDENCE.

Medical Jurisprudence being included in their competitive examination, is carefully attended to; and a remarkable work on the subject, called "the washing of the pot," (Si-yuen), is in the hands of all the magistrates. It was prepared during the dynasty of Sing (A.D. 960); and has from time to time been much improved. It is studied with care, but

under great disadvantages, from the Chinese dislike to dissection. Some practitioners study the subject, and their assistance are sometimes required; but more frequently ignorant barber-surgeons, or quacks, are employed to assist on such investigations.

When a death occurs from violence, the magistrate has the corpse removed to the nearest court, and the suspected persons are apprehended, and brought before him for examination, and in many cases torture is employed to elicit the truth.

Sudden fits are supposed to be produced by the internal fire, for which warm medicines are exhibited. When asphyxia is produced by hanging, prompt measures may revive the person. With this object, he is cut down, and stretched upon the ground. One person is to place his naked feet upon an arm, and twist his hair round his hand, while another rubs his breast, and a third bends his arms backwards and forwards. As soon as the person revives, a decoction of cinnamon and rice water should be given. When there is still a difficulty in swallowing, air is to be blown, by means of a tube, into his ears. This is considered an excellent method of restoring animation. If recently hanged, the person will be restored to consciousness by blowing into his mouth, When

rendered insensible by pressure, the person may be revived by pulling his hair, and blowing stimulating powder into his nose. A person rendered insensible by drowning, should be laid across a cow's back, or over a bench, in order to expel the water. Should this occur in winter, the body should be covered with warm blankets, and rubbed with stimulants.

Persons under the influence of demons, and exhausted with excessive pain, should have their noses twisted, their face spat upon, their feet bitten, and their elbows burnt, to awaken them from their state of stupor. If the limbs be cramped, with a rattle in the throat, and the patient be in a fainting state, a decoction of ginger is to be administered, with hemp oil, and aromatic pills. If after using some stimulants the patient revives, then there is hope. When the patient faints because the blood has flowed over the heart, the most effectual remedy is a fumigation with vinegar, by which it is supposed to return to its vessels. Should the person drink a drop of water, the phlegm will settle there, and he will die. In such cases, when the eyes are yellow, the muscles contracted, and the mouth parched, a dose of bezoar-stone, or the powder of the rhinoceros' horn, will be very efficacious.

When sudden faintness with tremor occurs, it is relieved by pouring the blood of an animal, still warm, down the throat of the sufferer; and should death follow, the patient has died legitimately, while following the system established by the ancients.

When a patient is greatly prostrated, and is in a state of apathy, a mixture of thirty-three herbs is made, which weighs seventy-five *taels*; one of which is infused in double the quantity of hot water and given for a dose. Should the weather be moist, ginger is added, with pills at bed-time, to elevate the spirits, and purify the lungs.

The Chinese text-book passes in review the various methods of causing death, and explains the mode of ascertaining the fact after each. The author distinguishes the different marks on the neck resulting from being strangled while on the knees, or while lying down, by a slip knot, or by a turning knot; as well as the peculiarities in appearance when the individual has strangled himself.

Drowning differs in its resulting appearances, from those being thrown into the water after death. The drowned man has the abdomen much distended, the hair sticking to the head, foam at the mouth, and the hands and feet stiff and

the soles of the feet extremely white. These signs are not found when the body has been thrown in to the water after death. In like manner is pointed out the difference between the appearance of one who has been killed by fire, or suffocated by it; in the first case neither ashes nor vestiges of fire are found in the mouth and nose; while those signs are always found in the other.*

CHAPTER V.

MATERIA MEDICA AND PHARMACY.

The Chinese, like the Hindus, suppose there is a medicine for every sickness, but not for fate; a maxim never forgotten from its usefulness, particularly as the medical practitioner is held in little reputation.

The Chinese materia medica is so extensive that there is scarcely a shrub, leaf, or root, which has not been used as a medicine, many of them being of no efficacy. The practitioner usually prescribes from twelve to twenty ingredients, in the form of pill, powder, or decoction, in the expectation that some one of the ingredients may prove efficacious.

* Huc's Chinese Empire, vol. i., p. 279.

The chief object is to purify the blood and humors, to strengthen the stomach, and dissipate vapours; cordials are given to suppress fluxes, and purgatives to expel diseased humors. They give the most nauseous mixtures, which are taken without reluctance, as indicative of the presence of a superior power. The Chinese also support pain with stoicism, and from their usually possessing excellent constitutions, wounds are cured with less difficulty in them than in Europeans.

The first treatise on materia medica is attributed to the famous *Shin-nung*, who lived in the traditional period of the Chinese chronology. He is considered the father of medicine and husbandry. A treatise on materia medica (*Pun-tra*) is supposed to have been prepared a thousand years ago. The Chinese herbal has numerous warm vegetable stimulants, carminatives, stomachics, and astringents; while it is defective in pharmaceutical preparations, as mineral oxides, acids, salts, tinctures, &c. There are said to be 440 medical agents, generally derived from the vegetable kingdom, with a few from the mineral kingdom. From their ignorance of chemical combinations, and of the influence which gases, acids, and alkalies exert upon one another, they use comparatively few minerals; but among these they have employed, as

medicine, from time immemorial, the carbonate and sulphate of soda, the sulphate of iron, the acetate sulphate of copper, the carbonate of lime, cinnabar, the chromate of lead, borax, alum, mica, sulphur, with which they cure scabies or pustules formed by worms, and arsenic and mercury, for curing constitutional syphilis. There are also some other mineral and vegetable substances sometimes employed as medicine.

The Chinese herbal *(pen-tsao-cang-mow)* contains twelve sorts of drugs, obtained from sixteen classes, which are sub-divided into seven different kinds, according to the elements which predominate, to their taste, colour, or to their innate qualities, whether they heat or cool the body, dry or moisten it, or render it sweet or bitter. Some are disgusting, others are worthless, but there are a few useful drugs. The 1st class has fire and water as the chief element. 2nd. Earth, the mother of all things. 3rd. Metals and stones. 4th. Plants, grain, pulse, roots, and trees. 5th. Is composed of old garments and utensils. 6th. Insects, fish, scaled animals, or the secretions and excretions of birds and quadrupeds: and 7th. Those derived from organic bodies, commencing with what is lowest and most vile, and terminating in what is most

exalted and excellent. The properties of each substance are described, with its manner of preparation, preservation and use. They treat of the nature, quality, smell, and taste of the drug; its virtues, and uses, or effects, and end by giving the receipts and doses of each. There are 2935 receipts in this work. According to the doctrine of the five colours, all medicines that are *green* are considered to belong to the element *wood*, and operate on the liver; the red belong to fire, and operate on the heart; the yellow to earth, and operate on the stomach; the white belong to metal, and operate on the lungs; and black medicines belong to water, and operate on the kidneys.

The qualities of the five tastes form another fanciful arrangement of medicine. *Sour* medicines are supposed to belong to the element wood, and affect the liver; the bitter, to the element of fire, which acts on the heart; the sweet, to the element of earth, which enters the stomach; the acid or pungent, to the element metal, which acts on the lungs; and the salt to the element water, which affects the kidneys. All sour medicines are capable of impeding and retaining; bitter medicines of causing looseness and warmth, as well as hardening; sweet ones possess the qualities of strengthening, of harmonising, and of warming;

pungent ones disperse, prove emollient, and go in a cross direction; salt medicines possess the properties of descending; those substances that are hard and tasteless open the orifices of the body, and promote the discharges.

The Chinese suppose the upper part of the body partakes of *yang*, and the medicines suited for its diseases are the heads and upper parts of plants, and the stems of plants for the diseases of the middle part. The lower parts of the body partake of *yin*, and the roots of plants cure their diseases; the upper half of roots ascending, and the lower descending in the system.

The Chinese rely chiefly on the proper combination of drugs, by which poisonous qualities are removed, and inert remedies rendered efficacious. Drugs are also administered in various ways; some being taken by decoctions to purge and to promote the circulation of the blood; others in the form of pills to open the bowels and expel the wind; others are mixed with liquor, vinegar, and essences, to increase their effect; and some are ground to powder, or fried in fat, to absorb bad humors. Cold diseases require warm remedies; indigestion is relieved by emetics, worms and humors of the

abdomen by poisonous drugs, and bad humors may be expelled by moist medicines.

The medicinal power of the branches extend to the extremities of the body. The bark has influence over the flesh and skin; the pith and substance of the tree within the trunk, operates on the viscera. Those which possess light properties ascend, and enter the regions of the heart and lungs; while the heavy descend, and enter the regions of the liver and kidneys. Medicines which are hollow promote perspiration; those which are solid attack the internal parts of the system; those which are hot but decayed, enter the breath; and those which are mollifying enter the blood-vessels, that ascend and float in the system, and belong to *yang*, while the thick, solid, and heavy sink, and are called *yin*. Medicines of a slight taste ascend and resemble vegetation in spring; while those whose properties are thin, descend in the system and remain, resembling autumn. Those whose properties are thick, float, and are lasting like summer; while those whose taste is heavy, descend, and lie concealed, like winter; and those of a mild taste cause transformations, and are brought to perfection, resembling the earth, as to its power on the vegetable kingdom. Medicines with thick properties

of a slight taste, ascend and float; while those with a strong taste, and with slight properties descend. When both their properties and tastes are heavy, they are capable of floating and descending; while those whose properties and taste are both slight, are capable of ascending and descending. The sour and salt medicines do not ascend, neither do the sweet and pungent descend. The cold do not float, nor do the hot sink.

The properties of all medicines are either cold or hot, warm or cooling, which belong to the *yang*, or male energy in nature; while their tastes, as sour, bitter, sweet, pungent and salt, belong to *yin*, or female energy in nature. Powerful properties belong to the *yang* principle; while those with mild properties partake of *yin*. Medicines are likewise distinguished into simple and compound, according to their different qualities. Some by heat unite; others are opposed to each other, or are of a contrary nature, and destroy or kill each other. These should never be united.

Pao Shing says there are 355 sorts of drugs, of which 70 are simple; 20 only exist in union; other 80 lend mutual assistance to each other; 73 have a mutual aversion, 58 an antipathy, 18 are contrary and opposed; and 36 kill or destroy each other.

There are two works on materia medica, one of which, in seven volumes,* describes and delineates 1,111 specimens of medicinal plants, animals, and minerals employed in China. These descriptions are so incorrectly given, that they are of little use in practice. Nor is the other better,† affording no information, beyond marvellous tales of wonder and vague speculation. It will require a more scientific examination of Chinese drugs before their natural treasures can be unfolded; and until then we must remain satisfied with the fanciful ideas of the Chinese.

Drugs will vary in their nature according to the soil in which they grow, the season in which they are gathered, whether dried in the sun or shade. According to the Chinese, roots should be raised in the morning in spring-time, and in the evening in autumn. Flowers, fruit, leaves, and stalks, plants, and creepers should generally be plucked at maturity. Some should be old, and others young.

Medicines are distinguished by their tastes, as sharp, salt, sweet, bitter, and strong; by being cold or hot, having a good or bad smell, and being benign or poisonous. Some suppose that aromatics and perfumes are of great use in certain diseases.

* Pun-tsaon. † Pun-tsaon-pe-yaon.

The Medicines are used in the form of bolus, pills, powder, or infused in wine, boiled in water, fried in oil or fat, &c.

Those who purchase drugs should have two eyes not to be deceived; one is sufficient for the practitioner who uses them, and those who take it should have none at all.

In practice they suppose the curative properties of the medical agent are, to strengthen the breath, reduce the phlegm, equalise and warm the blood, repress humors, purge the liver, remove noxious matters from the system, improve the appetite, stimulate the fire and the gate of life, restore harmony to the system, &c.

Dr. B. Hobson, in his excellent account of the Chinese medical profession, gives 314 drugs from the vegetable kingdom, 50 from the mineral, and 78 from the animal kingdom,* which are all obtained from China or the neighbouring countries. Each of these is described by the Chinese, with the part or organ of the body into which it enters and assimilates. They also state its hot or cold properties, its taste, smell, and colour, and its uses and doses. These drugs are methodically arranged into classes and orders, according to their properties. The number of drugs, it is alleged,

* See Medicine in China, Med. Trans., vol. ii. London.

should not exceed one hundred, although many more are constantly employed.

ORDER I.

TONIC MEDICINES.

The following are a few of the drugs chiefly employed in practice. The ginsing is considered by the Chinese as the "wonder of the world, the dose of immortality." The root of the plant is used, and is straight, spindle-shaped, and knotty, and seldom so large as the little finger; is two or three inches in length, has little smell, is mucilaginous and sweetish to the taste, with some warmth, and slightly bitter. When prepared for use, it is transparent, with a slight reddish or yellowish tinge. The most celebrated Chinese practitioners have written volumes on the ginsing, which removes fatigue, invigorates the enfeebled frame, restores the exhausted animal powers, renders old people young, to which the more cautious add, "if any thing on earth can do so."* There are said to be 77 authorised preparations of ginsing; and it is most generally used in com-

* See Hist. Gen. de la Chine, tome xiii., p. 767. Translated by Mailla.

bination with other remedies, such as ginger, honey, &c., and is an ingredient in most of the Chinese preparations. This explains the care with which the plant is grown in different provinces of the Chinese empire, and the large quantity imported from Tartary.* It is gathered with superstitious care, on the first ten days of the second, fourth, and eighth month, is infused and boiled to the consistence of an electuary, is exhibited in numerous diseases, and in various forms and mixtures. It is used night and morning in their tea and soup, and is the chief ingredient in the shops of the apothecary. It has slightly tonic qualities, and being expensive, is much used by the old mandarines and rich individuals, weakened by indulgence in every sort of sensual gratification.

Tea. Various preparations of this valuable shrub are used by the Chinese, both as a beverage in quenching thirst, and for reviving the heart. It is drunk hot, as it deranges phlegm when taken cold; is diuretic, and dissipates drowsiness and headache. As a medicine, it is used for indigestion, and disorders of the bladder.

Tobacco, next to tea, is considered to yield the best means of preserving health; other roborants, such as:

* The panax quinquefolius for which the P. fructuosus is often substituted; the former growing chiefly in Tartary, the latter being a native of China.

1. *Those which warm and strengthen the viscera*, as dried dates, fruit of lung-gan and li-che, flesh of fowls, beef, honey, &c.

2. *Mild or tranquillising tonics*, such as liquorice root, the parasite of mulberry trees, the fruit of the cypress, old rice, broad beans, species of yam, ass's glue, bird's nests, mutton, duck, pigeon, &c.

3. *Medicine which increase the natural fire, or stimulating tonics*, such as cassia, cinnamon, aloes wood, sulphur, asbestos, stalactite, fish, tops of stag-horns, dried red spotted lizard, silk worm moth, &c.

4. *Medicines which nourish the secretions, especially of the kidneys:* Linseed, hemp-seed, elm-bark, medlar, minium, black and white lead, tortoise shell, human milk, and various parts of the pig.

5. *Medicines which strengthen the kidneys and testes:* Extracts from stag-horns, and various parts of the animal, dog's flesh, dried placente, a species of fern, walnuts, &c.

ORDER II.

WARM ASTRINGENTS.

1. *Warm and tonic astringents.* The Chinese often employ exotic drugs, particularly aromatics,

such as nutmegs, cloves, cinnamon and pepper, as condiments in their food, and as remedies for all sudden and violent diseases, such as apoplexy, fits, and the like. Assafœtida is an exotic medicine, and is considered an universal remedy, which extirpates the very seeds of disease. It is consequently much used. *Opium* is another imported drug, much used as an anodyne, and for the cure of dysentery. The baneful habit of smoking opium in a great measure originated from the prescriptions of Chinese practitioners in medicine, who recommended it for the cure of ague, rheumatism, and pain of all kinds, which it relieves. It reduces the body to a skeleton, stupefies and blunts the mind; and the victim falls an early prey to the pernicious habit. Every one condemns the use of the drug, and the Chinese government prohibits its importation under severe penalties, but it continues to be extensively consumed, and among the rich is considered the most exquisite luxury, is indulged in to excess, and the person is rarely able to relinquish it.

1. *Gall Nuts*: Seeds of the lotus flower, poppy heads, &c.

2. *Cooling astringents:* Pomegranate, charcoal, bones and teeth of the dragon, oyster shell, &c.

3. *Pure astringents* are the seeds of the date, armenian bole, quince, sour plums, &c.

4. *Astringent tonics*, repressing weakness: Iron filings, hæmatic iron ore, loadstone, talc, litharge, gold and silver leaf, &c.

ORDER III.

RESOLVENTS.

1. *Dispersants of cold:* Fragrant basil, fresh ginger, orange stalks, different varieties of onions, &c. A preparation of ginger and hemp seed is employed to promote perspiration.

2. *Medicines which disperse wind:* Mint, calamint, species of bivalve shell, branches of cassia, mimosa pods and seeds, seeds of species of acacia, tiger's bone, spotted and black snake, musk, dried scorpion, cicada, centipede, shed snake skins, camphor, which they prize highly, and is generally obtained from Borneo and Sumatra.

3. *Medicines which disperse moisture* are not recognised.

4. *Medicines which disperse morbid heat* are a species of yam, black residue of beans, soy, &c.

5. *Emetics:* White hellebore, seeds and root of turnip, stems of sweet melon, sulphate of copper.

6. *Warm resolvents :* Native nutmeg, varieties of long, white, and black pepper, cardamoms, putchuck, magwort, aniseed, a species of ginger, dried ginger, galingal, a species of corn flag, a kind of suet, tobacco, cloves, sandal-wood, gum benzoin, camphor, barley, resin, caraway, and mustard seed, &c.

7. *Mild and equalising resolvents :* Chamomile, scouring rush, reeds of burdock, native putchuck, duck weed, betel-nut and covering, pommelo skin, dried orange skin, mint, dried silk-worm chrysalis, and ordure.

ORDER IV.

PURGATIVES.

1. *Absorbents of moisture :* Rice paper plant, sliced china root, &c.

2. *Laxatives :* Seeds of plantago, soap stone, petrified pecten, sage, amber, small red bean, &c.

3. *Diuretic class :* Species of fern, others not recognisable.

4. *Expectorants* suppressing phlegm; alum, bezoar, a kind of borax, pistachio nut, coarse mica. The juice of the bamboo is supposed to dissolve phlegm, and is a friend to the chest, cleansing its

impurities, promoting its healing action, dissipating wind and heat, stopping hemorrhage, and promoting urine. Raspings are often used in combination with croton tiglium (pa-ton), sometimes in the form of lozenges.

3. *Purgative and cooling:* Rhubarb, raspings of bamboo, parsimmon tops, water melon, pear, verdigris, species of sea shell, gypsum, common salt, sulphate of soda, snow water, crystallised salt, calcareous spar, catechu, pearls, bear's gall, preparations from human excrements, &c.

6. *Refrigerants:* (purging fire), red and yellow gentian, sliced peony, mulberry root and leaves, shavings of antelope's and rhinoceros' horns, loquat leaves, &c.

7. *Repressing humors:* Almonds, buck-wheat, &c.

8. *Mild and digestive aperients:* Root of a species of lily, wormwood, vinegar, coarse rice, turtle shell, &c.

ORDER V.

MEDICINES WHICH AFFECT THE BLOOD.

1. *Those which warm and nourish it:* Brown sugar, olibanum, cassia wood, urine, scallions, rabbit-dung, cuttle-fish bone, &c.

2. *Medicines which cool the blood*, are bastard saffron, young cypress, elm tree root, cinnabar, rabbit's flesh.

3. *Astringents of the blood:* Madder, turmeric, myrole, dried varnish, seeds of a species of plum, dragon's blood, peach seeds, arrow root, old copper cash, dried leech, red marble, goat's ordure, cantharides, &c.

ORDER VI.

MISCELLANEOUS.

1. *Medicines which destroy worms:* Assafœtida, betel extract, quicksilver, chloride of mercury, vermilion, &c.

2. *Medicines which weaken or destroy persons:* Seeds of castor oil plant, resin, shavings of ivory, elephant's skin, preparations from toads, &c.

3. *Expelling powers:* Alterative, are seed of burdock, honeysuckle stamens and pistils, species of green pea, and dried earthworm, &c.

4. *Poisonous substances:* Seed of croton oil plant, arsenic, &c.

ORDER VII.

MINERAL MEDICINES.

Few medicines are employed by the Chinese from the mineral kingdom. The chief are mercury and iron; the former appears to have been introduced a thousand years ago, and most probably from the Hindus. It is extensively employed for the cure of the venereal disease, is considered a specific in many disorders, and forms a chief ingredient in what is called "the liquor of immortality." This has been found so injurious to health that it has been excluded from practice.

The different preparations of mercury are obtained from native cinnabar, by the same imperfect process as the Hindus follow. In this way they prepare the impure oxide and sulphuret of mercury, calomel, and corrosive sublimate; which are used externally. The sulphuret is sometimes used for fumigating, and for diseases of languor they sometimes give mercurials, but rarely salivate.

The following method of preparing the mercury by fire, may be given as an example of their pharmacy:

Take of sulphate of iron	940	grains.
Do. of alumina	920	—
Nitrate of potash	900	—
Sulphate of quicksilver	120	—
Another preparation (not ascertained)	660	—
Quicksilver - -	660	—
Muriate of soda -	920	—
Sub-borate of soda -	930	—

For the preparation of the red nitric oxide of mercury they employ equal portions of the sulphate of alum, nitrate of potash, and quicksilver. Mr. Pearson describes the rude manner in which these and other preparations are made. Another of the mercurial preparations resembles calomel, and is the only form of mercury which is administered internally. It is sold in small boxes wrapped in a printed paper. It is in the form of fine flakes, of a pearly white colour. They exhibit mercury triturated with juicy leaves, until all the globules disappear, and they form pills with this mass. They use the mercurial preparations, as Europeans, for the cure of the venereal disease. At present, the most general use of mercury is as a febrifuge, and it is used for diseases of the skin, particularly those produced by animalculæ.

Minerals are sometimes used, such as cinna-

bar, oxide of mercury, oxide and subsulphuret of arsenic, from the Hindu recommendation; owing to a constant intercourse between the two countries, even before the Christian era, by travellers and ambassadors, and Buddhist priests, who visited China; and took with them the classical Hindu works.*

The bright powder of henen is the sulphate of soda, has been known for more than twelve centuries, and is valued as a cleanser and purifier on the hot and cold humeral system.

ORDER VIII.

ANIMAL MEDICINES.

The medicines from the animal kingdom may often be used with advantage, and different parts of the animals are recommended. The bones and horns of certain animals, as of the hart and rhinoceros, are much extolled; the bones of the tiger and elephant are considered excellent remedies in consumption, and in extreme weakness, by strengthening and fattening the body. The blood and bones of the lion and tiger are used to ensure courage; and ivory, pulverised and given

* Asiatic Journal, Calcutta, for July, 1836.

in some liquid, is said to cure diabetes, and elephant's teeth epilepsy. The eyes burnt to powder, and mixed with human milk, are a certain remedy for inflamed eyes. The flesh of the camel dispels wind and fortifies the nerves; and that of the sea horse, and other rare animals, roasted or boiled, warms and strengthens the system, and assists delivery. The Chinese likewise believe that the livers of different animals, especially otters, are of much use in the cure of disease; and the milk of the camel, mixed with other medicines, fortify the body, and the hair and fat, taken internally, remove piles. The latter is also used for cooking purposes, and for preparing medicine, for the cure of ulcers, &c. Crabs' claws, properly prepared, are an antidote against poison. The fins of fish, and the larvæ of the silk worm, snails, scorpions, &c., are supposed to be of use in many diseases.

SECTION I.

USES OF MEDICINE.

Drug shops. These shops are common in all the cities, and are well supplied with bottles, gallipots, drawers, paniers, and mortars, as in Europe, and are remarkable for their order and cleanliness.

These shops contain an immense variety of simples, chiefly from the vegetable kingdom, with a few gums and minerals. The simple medicines are kept in made up packets, each containing a certain number of doses, with labels describing the quantities of medicine, and the mode of administering it. They make great use of rhubarb, orange-peel, and various powders, leaves, and roots.

Medicines, both fluid and solid, are all sold by weight. They have no fluid measure; and their scales, though small, can weigh medicines from one or two grains, to several pounds. The weights for making up prescriptions are the *candareen*, a half scruple or ten grains; and the *leasig*, or ten drachms. The latter is most frequently used, which proves that the medicines in general use are neither powerful, nor possess great healing properties.

Medicines are usually exhibited in the form of infusion, the different medicines being boiled in vessels of baked clay, and swallowed hot, the taste being generally mawkish and sweet.

They suppose that very few medicines should be given by themselves, as their qualities require to be modified by mixture; by which, poisonous substances become useful, and useless drugs effec-

tive. Of the few that can be exhibited by themselves, musk, rhubarb, and gin-seng are the chief.

The Chinese, like other Asiatic nations, look to the present effect, without considering the remote consequences. For this reason partly they exhibit drachm doses, and consider smaller ones of no efficacy. Their medicines are collected and often kept in a very careless manner, and from losing their properties they require to be exhibited in large quantities, which are considered a proper equivalent for the price given, and this, along with the ignorance of the practitioner, affords little chance of the proper advantage being obtained from the medicine.

In prescribing medicines for diseases, the Chinese practitioner varies them with the temperature of the air, and the season of the year. In some of their works they show great ingenuity in modifying their prescriptions, in order that they may answer for all possible cases. The herbalists are recommended to gather their herbs in the first two days of the second, fourth, and eighth moon, when the stars are supposed to be propitious; by which the qualities of the medicine are improved.

The Chinese practitioner has a large choice, and always prescribes a mixture of a variety of drugs, one of which may prove effectual in curing the

disease. In some cases the patient is unable to swallow the large dose; or, it may be too powerful in his weak state; and his death creates little sensation, when they have followed the system pursued by the ancients. They are paid according to the prescription, which is modified by leaving out all expensive medicines, and exhibiting large doses of other inferior drugs to make up for the deficiency. By this chicanery they materially injure the mixture, which explains the little confidence the Chinese have in their prescriptions. They have numerous nostrums, and many practitioners and apothecaries carefully prescribe them, and praise their virtues. Some have one or more specifies by which they engage to cure diseases in a certain time, and for a fixed price. The Chinese were at an early period acquainted with the distillation of ardent spirits, and they long hunted for the philosopher's stone, and the elixir of immortality.

CHAPTER VI.

HYGIENE.

The art of preserving health has been carefully attended to by the Chinese, and their empirical knowledge is often considerable. They suppose

that the weather, and the state of the elements have a great influence on the health of the body. The moon is supposed to have such a power on health, that they will not sleep out in the moonlight for fear of its evil effects. This is by no means an imaginary evil in that country. Each season consists of two months, has a predominating element, which influences particularly the diseases which attack the body; and produces its effect on the temperature of the body, and the pulse, whereby the physician may judge of the nature of the disease, and the treatment to be pursued: the pulse requiring the greatest attention, and being the only means of judging of diseases.

The season varies the diseases, and should influence the diet and regimen. During the spring the wood of the liver is invigorated, in autumn metal predominates and affects the wood, and in summer fire is the most powerful. Metal having lost its power, wood and fire predominate, and injure the earth of the stomach; the body becomes heated, the pulse very full, the aliment is not digested, and dysentery ensues.

In China, there is a total absence of all sanitary arrangements in the densely populated cities, where open drains and cess-pools emit most un-

pleasant odours, and have never the required fall to lead off their contents. The consequence is that all the refuse of the cities accumulates in the drains along the narrow streets, and during the hot season, epidemics often occur, and destroy great numbers. Both typhus and typhoid fever in the worst forms appear. In some parts intermittent fevers are, especially in the tertian type, still more common, from the malaria arising from the extensively irrigated paddy fields. They often terminate in enlargement of the spleen and liver. This tendency is increased by their small houses, the floors of which are under the level of the ground, and by sleeping upon boards raised very little from the floor, which is kept extremely dirty. Eruptive fevers, especially small-pox, are common, being generally introduced by their inoculating particular children, and they often spread epidemically, particularly in spring.

Personal duties. In regulating their diet and regimen, the Chinese follow a rational method, and their precepts are often very curious. They divide the subject into the regulation of the passions, diet, "the actions of the day and the rest of the night."

The treatise of *Tchang-sing* contains many very just and important observations. The desires

and affections of the heart "are like the root of a tree, or the spring of a river presiding over the whole of the system, embracing the faculties of the soul, the five senses, followed by virtue, obedience to parents and to the magistrate, moderation, equity, contentment with one's condition, a peaceable disposition, and desire to retain health." Such qualities will retain the liver, lungs, and stomach in health; and by thus following virtue and fidelity, a man will ensure health. This is promoted by rising early from bed, and drinking some gruel. The breakfast should be taken early before going out, and he should make a hearty meal at noon of wholesome food in moderation to strengthen the body, and drink water to appease thirst, and to support the body. The food should be plainly cooked, avoiding salt meat; it should be eaten slowly, and well chewed, and before the meal tea should be drunk, which refreshes and strengthens. He should sleep two hours after dinner, and his supper should be eaten sparingly.

It is recommended to clean the mouth and teeth before going to bed with the infusion of tea. The soles of the feet should be rubbed to disperse the animal spirits, till the part feels hot; a custom followed by the Hindus. "Calm your thoughts

on lying down in bed, and go to sleep on the side of the lungs to dissipate the vital and animal spirits." Avoid sleeping in the open air, in dew, or upon cold or hot stones.† The Chinese have a high and a very just notion of sleep, considering one sleepless night of watching, as not being counterbalanced by ten nights of sleep. They are neat and cleanly in their persons and dress, simple in their food, and polite in their manners. Their females are fair and neat, and unlike the generality of females in Asia, are chaste, and enjoy a considerable degree of liberty.

CHAPTER VII.

MIDWIFERY, AND THE DISEASES OF WOMEN AND CHILDREN.

The Chinese theory of generation has been derived from the Hindus. Their vicious system of polygamy explains the prevalence of the unnatural habits of producing abortion, and of abandoning their infants, which prevail to such a lamentable extent in many parts of China. There is anxiety among the higher classes to attend to the means

† See Chang-Sing, or long life. Translated by the Jesuit D'Entrecolles.

of promoting the fertility of woman, and various remedies are recommended for the purpose.

Midwifery, in all its relations, has been from time immemorial left in the hands of midwives, who are stupid and ignorant. A false shame prevents the Chinese females from receiving assistance from the male sex. They often lose their lives by such conduct, in cases of hæmorrhage, cross births, &c. This is rendered less remarkable when we consider the little respect the Chinese have for females, and their being predestinarians.

The sagacity of many of the remarks of the Chinese medical writers is seen in the treatise on midwifery, mixed with much that is fanciful and superstitious.* All these treatises are stated to be merely explanations of the ancient system, in simple language, for the use of the ignorant, both males and females. The latter are chiefly employed, and the male practitioner is only called by the rich, or in difficult cases. The daughters of toil require little assistance, and it is the pampered higher classes that need attention and assistance: "as herbs and plants burst in the proper season, and the chicken leaves its shell at the appointed time, man being the

* See Dr. Lockhart's translation in the Dublin Journal of Medical Science for 1842, p. 133, *et sequ.*

most intelligent being in the creation, how can he suppose that he should be inferior to other created beings? This process is entirely spontaneous. Why should the human race alone require assistance, and form an exception to the general law of nature; and an every day occurrence be considered as unusual or strange? It is with faltering lips and stammering tongue I have pointed out such erroneous ideas, and have described my practice to others, in which difficult labours are extremely rare. Let practitioners, then, follow implicitly nature, and not interfere with her operations by useless meddling." The room in which the female is to be delivered should be large and kept cool, no more persons should be admitted than absolutely necessary, and one midwife should be always in the room.

The Chinese distinguish the false and true pains; the first being irregular and called trial pains. When they become stronger, and more frequent, the patient must be put to bed and kept quiet, calm, composed, and cheerful. She must bear the pains with fortitude, and be allowed to sleep, when lying on her back, so as to relax the centre of the abdomen. She should stand up and walk slowly about the room, between the earlier pains, in order that the fœtus may turn in the uterus in

preparing for its delivery, and work itself out. Up to that time the fœtus is supposed to rest with its head uppermost; and if efforts are made to expel the fœtus, the feet will come first. To prevent this, they recommend exercise during pregnancy, so that the blood and spirits may pervade the whole body, the muscles developed, and bones strong. Should the female, during this period, remain unoccupied, and at ease, the muscles and bones will be soft and fragile, and the blood and spirits circulating actively, abortion is liable to take place. She must therefore be accustomed to work, and live on cooling and oleaginous food, with healing articles.

When the strong bearing down pains come on, the patient is to be supported in a half reclining posture, and is told to make efforts to assist the delivery, and a deep wooden platter is placed under her, so as to receive the child on its expulsion. The native midwives tie the cord, and burn it through, by which means the warm spirits are supposed to enter the abdomen, when the child cries.

The Chinese describe numerous diseases of childhood, and recommend various prescriptions to cure them in all possible cases. As there is nothing remarkable in such descriptions, nor in those of

the numerous diseases of women, it is not necessary to explain their vague and uncertain treatment.

CHAPTER VIII

EXTERNAL DISEASES.

Hwa-to is considered the great patron of the healing art in China; and is particularly famous as their Surgeon, having effected many wonderful cures. He and other celebrated persons are considered the "nation's arm." Surgery is now unknown among the Chinese, from their aversion to maiming the body, and disgust at the sight of blood. A doctor is prohibited from performing the simplest operations, with surgical instruments. They know little of the treatment of fractures, dislocations, and other accidents; and a tooth is only allowed to be removed when it can be done by the two fingers.

Being ignorant of anatomy, and much prejudiced against dissection, when called upon to act in cases of accidents, the practitioner does so with reluctance; and he refuses to act when the injury is severe, for should the person die, the practitioner loses his credit, and may be prosecuted for man-

slaughter. The treatment of surgical or external diseases is therefore left to the barber-surgeons, who are generally ignorant, and sometimes so audacious, as to do much harm.

Cold applications are employed for local inflammations, and for inflamed ulcers. Various ointments and cataplasms are used for ulcers, and when very indolent, the actual cautery is recommended. Running sores indicate a weakness of constitution, which is remedied by constitutional treatment. Gangrenous and foul ulcers are treated successfully by poultices of different herbs and roots, and poisonous ulcers are dispelled by rhubarb, kernels of dates, the pulp of the lotus plant, &c.

The Chinese suppose that local swellings either proceed from injuries, heat, or the transition from heat to cold; from high wrought feelings, or from having eaten or drunk something of a poisonous nature. By such causes the blood is arrested in its course, and a swelling ensues. These may terminate in abscesses or in tumors, which should be opened by a needle, and the blood pressed, or sucked out. These swellings may be simple or scrofulous. When such humors remain hard, and do not open, a crucial incision is made in them, and a flour poultice, moistened with vinegar and water, is applied; at the same time a few doses of

a mixture composed of myrrh, olibanum, musk, and burnt crabs' shells, will complete the cure. They are often very successful in the treatment of boils and tumors. In severe cases they sometimes use scarifications, to which various remedies are added to remove these swellings.

The aversion of the Chinese to the performance of surgical operations, obliges them to rely on external remedies; which are, of course, often ineffectual in many cases of accidents, and surgical diseases. They have sixteen kinds of instruments. When the abdomen is wounded, and the entrails are expelled, the hands of the practitioner are to be oiled, the gut restored, the wound kept together by sutures from the bark of the mulberry tree, and dressed with a particular ointment. Wounds are generally kept moist with a decoction of *ginseng:* and the patient is to have for food rice in which sheep's kidneys have been boiled, and he will generally recover within ten days.

When the wound is large and dangerous, the individual is generally allowed to expire in the street without assistance, as dying under the charge of a practitioner, endangers both his safety and reputation. Even the nearest relations shrink from such a responsibility. They never

amputate, but allow a limb to drop off from gangrene, when much injured.

When blood flows from the wound it is supposed that the blood-vessel is not in good order; and as the liver is supposed to occasion this, the first attention is directed to this organ. Spreading and spongy sores are supposed to originate in disease of the liver, which must be attended to in the cure. In practice they employ bandages and styptics, leaving much to the experience and discretion of the practitioner.

Dislocations appear to be more common than among the firmer and more muscular Europeans. Those of the spine are more frequent than in more northern latitudes; and according to some practitioners, are attended with less danger. The Chinese in large cities, have bone-setters, who are sometimes expert. They endeavour to remove the head of the bone from its new place, and put it into its natural position. An adhesive plaster is then applied to the part, with a flat bamboo splint over and beneath the joint, to keep the bones in their place, bound firm by a circular band.

From the character of the Chinese, fractures are not so frequent as in Europe. In simple *fractures* the Chinese bring the broken ends of the bone together, and keep them so with splints of bamboo.

In compound fractures they reduce the fractured bones, apply a medicated powder over the wound, which is then covered with the body of a recently plucked chicken, with all the bones removed. This is kept in its place for two or three days by means of splints and bandages. The cure is said to be certain, in fifteen days for a child, and a month for an adult. In comminuted fractures, they sometimes recommend to cut down and remove the fragments of bone; a pernicious practice, the favourable result of which can only be explained by the phlegmatic temperament of the Chinese. Internal remedies are used during the treatment of these injuries.

The Chinese insensibility to pain, explains in some measure their free use of the actual cautery; and among the few points in which European medical science has been benefitted by their intercourse with the Chinese, are the use of *moxa*, acupuncturation, and shampooing, which are almost entirely practised by the ignorant barber-surgeon. This is explained by the native genius of the people being allowed to exercise itself only in the lower branches of the profession, and affords an indication of what might be expected from the unfettered exertions of such an ingenious, industrious, and talented nation. The Chinese depend upon a

knowledge of the pulse, of the efficacy of ginseng, and the application of a *moxa*, or a conical roll of cotton; or of the most downy fibres of the gae tree (artemisia), bruised in a mortar, formed into a roll, and set on fire over the diseased part. The *moxa* consumes rapidly, without producing severe pain, and affords great relief in local pains and irritation; but it requires to be used with precaution, as the part is liable to become a sore, when it is applied to an unhealthy person. In many cases of visceral enlargement it affords great relief, as well as in affections of the head, paraplegia, &c. The Chinese practitioner is of use in such cases, as he distinguishes carefully local diseases, from those that can only be acted on through the medium of the constitution; which is an important practical principle. The use of *moxa* found its way through Holland to Europe, and Sir William Temple, when residing in Holland, had an opportunity of testing its use, and has left an interesting paper on the subject.*

Acupuncturation is a Chinese invention, and consists in inserting fine hardened silver or gold needles, with a rotatory motion, an inch and a quarter into pained or inflamed parts. They produce little uneasiness in passing through fleshy

* Works, vol. iii, p. 254.

parts, particularly in a state of contraction, and they diminish, and eventually cure the pain. The result, however, varies very much with the nature of the pain, as they are more effectual when used for neuralgic and chronic gout, rheumatism, and other such forms of inflammation. Their directions as to the course of the needles are vague, from their ignorance of anatomy, but they try to avoid nerves, tendons, and blood-vessels, &c.; and the effect, if necessary, is produced by passing them near, not through, the diseased part. The needle is allowed to remain in the part several minutes, or in some cases of neuralgia, for days, with great advantage; and again applied according to the manner in which it is borne. The more severe the disease, the deeper must the needles be inserted. Should the patient not bear their insertion, they must be immediately withdrawn; but near irritable parts they are often employed with very considerable relief. The practitioner, on withdrawing the needle, compresses the slight wound it made. The skin rises round the needle, preserving its colour, but soon sinks, and a red circle is formed round it. The sick person usually feels shooting pains directed towards the part, muscular contractions take place, with numbness along the nerves, and feverish

shiverings. This is followed by perspiration over the pained part, which feels much relieved.

The Chinese suppose that the mechanism of the human body resembles a hydraulic machine, and health is only restored by the free circulation of the humors and vital spirit. The weight and friction of the parts combined with external causes, are liable to produce a difficulty in the circulation. From this arises the importance of acupuncturation, which, on the penetration of the needles, augments the activity of the fluids, assists the humors and the blood to overcome the swelling, which impeded the circulation and produced the pain.

This remedy has been employed in Europe at different times with considerable success, in some cases of rheumatism, and in neuralgia; and it has been supposed that it acts, by withdrawing a part of the electric fluid accumulated in the pained part. The experiments of Pouillet prove that electric action really does take place when the needle is introduced into a muscle affected with rheumatism; but this is not due to the pain, or to its cause, since it takes place equally when acupuncture is practised on a part that is not the seat of any neuralgic affection.

These needles may be passed through all muscular parts, avoiding the principal nerves, the

great arterial trunks, and vital organs. From the ignorance of the Chinese in anatomy, they mention 367 points where the needles may be inserted, and many of these at considerable distances from the seat of the disease; and the needles appear, in these cases, to act as derivatives.

The Chinese employ acupuncture very freely, often passing a needle one inch into the stomach, making the patient take several deep inspirations, and then withdrawing the needle. The part is then pressed with two fingers, to force out any imaginary noxious vapours. This is repeated four times, when the patient will be free from pain, and cured.* I have seen that able surgeon Baron Cloquet, employ acupuncture with advantage to the temples, and round an inflamed eye.

Shampooing. The Chinese diminish local pain by pinching, rubbing, and twisting the surface over the inflamed part, producing considerable superficial irritation, and thus affording great relief. This is increased by the use of various embrocations and ointments, to thirteen different parts of the body. These are the fontanelle, the chest and back opposite the heart, the two palms and soles of the feet, the bend of the elbows, knees,

* See Dr. Lockhart, Nos. 20 and 23, of first series of Dublin Quarterly Journal of Medicine. See also Sirr's China and Chinese.

and loins. The medicine is carefully rubbed in, over these parts, for the space of half a dollar. The parts are not to be warmed after the friction, so as to allow the medicine to "seek in for itself."

In *sprains*, the friction of shampooing is of the greatest use in diminishing the swelling and pain, when employed soon after they have been produced.

Inoculation. The small-pox (tchon-hoa), is supposed by the Chinese to be produced by a poison, the germ of which is derived from the mother's womb, or from the debauchery of the parents, or ancestors in former ages, and lodged sometimes in the liver, stomach, kidneys, &c.; and the disease, developed in an obscure atmospheric or hygienic condition, inflames and ripens into this frightful affection, which can only appear once during life.

The Chinese distinguish four varieties of small-pox according to its degree of violence. In ancient times the disease was not so violent, and was rarely fatal. It is only in recent times it has appeared in its dangerous epidemic form. In the treatise on the small-pox, by the physicians of the Imperial College, translated by Father Cibot, it is stated that the disease was known for three thousand years, but in so mild a form as scarcely to be considered a disease: or more correctly it

was unknown to the ancients; and when it appeared in its virulent form it was accounted for, by the disease being aggravated by the civil wars, and by the overthrow of the ancient gods, which upset the manners and customs of the people, producing new diseases, as the venereal disease, and aggravating others, as the small-pox, which became so fatal. A sentiment peculiarly Asiatic, which supposes all diseases to be produced as the punishment for the wickedness of mankind. So that small-pox first appeared in its violent epidemic form in modern times; probably not long before its ravages was related in such pathetic terms by the Hindus, and described with such accuracy by the Arabs; much in the same way as the cholera suddenly appeared in its epidemic and dangerous form. The *treatment* of the small-pox was left by the Chinese to the practical sagacity of the practitioner, and was varied with the stage and the severity of the symptoms; and this is alleged to have been caused by the loss of their ancient medical works during the civil war, and as it is supposed to be derived from "the original sources of life," our efforts must be employed to avoid the causes which hasten its development. When present, the *treatment* to be followed must be varied with the severity of the symptoms, as by a

fatal necessity, this disease must occur once during life, and is sometimes very deadly, and at other times not. This may have induced the practitioner to try planting or inoculating the disease, to ensure a mild form. According to Cibot, this was employed in the second or third century. According to another, and probably a more accurate account, it is mentioned, that about the end of the tenth century it was invented by Yo-meishan, who inoculated the grandson of the Emperor Tchin-tsong, of the dynasty of Sang, with success among the first, which at once "closed the graves, that the small-pox annually opened." But this benefit must have been more apparent than real, as it introduced the frequency of the natural disease amidst unprotected multitudes, among whom it must have committed great ravages.

It was required that the child to be inoculated should have a healthy appearance, with good spirits, and viscera regular in their functions; and it should not be performed when the individual was infirm, and had any cutaneous affection. The season should be cool; and hot and cold, or unseasonable weather should be avoided. The eleventh and fifteenth day of the moon are considered unlucky days, and should be avoided, as the spiritual essence of the body is supposed to be

then in the septum of the nose, and sides of the body.

To ensure good lymph, a healthy child should be selected, in whom the disease had been mild; with small, round and pointed pustules, of a clear red colour, in which there is abundant fluid, and in which the crust is clear and consistent. These crusts are kept in vessels well closed up, and during the spring and autumn they will keep good for one month, and for forty or fifty days in winter. When they are to be used, several are rubbed down with water, and absorbed by a small dossil of wool or cotton, the size of a date seed. This is placed in the left nostril of the individual, if a male, and in the right nostril if a female, and is called moist inoculation. When the lymph or the crust is used in the form of dry powder, or the infection is communicated by using the clothes of the diseased; it is called the lymph, dry, or clothes inoculation. Seven days after inoculation, fever appears; in three days more, spots; which in three days change to pustules; and in three days crusts are formed, when the cure is completed.

In Hindostan, where the English have in vain endeavoured to substitute vaccination for inoculation, the native practitioners are equally careful of the season and condition of the body best fitted

for inoculation; and enquire how many pustules they wish to appear, and this is supposed important, from a certain number being believed to be necessary to neutralise the poison in the body, and is one of the important prejudices that leads them to suppose that vaccination is not sufficient to protect the body from the natural small-pox. A timorous mother will be satisfied with a few, while a robust father will require more; and the interesting fact is, that the inoculator can regulate the profuseness of the eruption, by the kind, and in particular, by the quantity or state of dilution in which the lymph is introduced. I satisfied myself of this important fact, not observed in China.

The Chinese practitioner employs external applications, and food internally, with many fanciful directions, to ensure a slight eruption; but he performs the operation during a temperate season, avoids exposure to great heat or cold, maintains the patient in a clean, airy, well-lighted room, keeps him quiet, and in good spirits; and occasionally burns incense in the room to purify the air. During this treatment, the patient should live on moderate, cooling diet, and avoid what may alarm or frighten him. By attention to

these directions, the casualties are said to be very small, scarcely one in ten thousand.*

It is probable that the Chinese communicated their method of inoculation to the natives of the west, and it was followed more readily by the Mahommedans than the Hindus, from its being more in accordance with their character and belief, and they conveyed their knowledge of this mitigating remedy to the Turks, by whom it was introduced into Europe.

Mr. Pearson, surgeon to the British factory, practised vaccination among the Chinese, which has been extensively adopted; and we must hope it will continue to advance, although there is much danger of the virus being lost, and the Chinese being left in a worse position than before the introduction of vaccination, from having lost the method of inoculating.

SECTION I.

DISEASES OF THE SENSES.

The diseases of the eyes, ears, nose, teeth, and feet, with those of the skin and hair, are

* See Trans. of Chinese Travels, by Dr. Lockhart: Dublin Journal of Medical Science, vol. xxiii., p. 41, *et seq.*

treated by barber-surgeons, who are generally ignorant, and from their state of penury, are obliged to submit to inconveniencies, and a state of degradation they would otherwise spurn.

Diseases of the Eyes. The finest elements of the body are supposed to be concentrated in the eye, and the pupil is therefore considered the very essence of the bones, and the black of the eye of the sinews, so that it is the most subtle aperture. Both the liver, heart, and blood-vessels influence the state of the eye. In sleep the blood returns to the liver; and the *ke* of the liver having found its way to the eyes, enables it to distinguish the five colours. There are said to be forty-one diseases of the eyes, their frequency being chiefly from want of cleanliness and care.

Inflammation, morbid thickening, or opacity of the eye, cataract, and turbidness are supposed to be only relieved by medicines taken internally; numerous incongruous remedies, not worth detailing, are recommended for curing diseases of the eye. The size of the elephant affords the essence of bone, and the eye when burnt to a powder, and mixed with the milk of the female, is considered a sovereign remedy against ophthalmia. Some of the oculists are successful in their practice.

They know but little of the theory of optics,

but use both convex and concave crystals to assist their sight; the rock crystal is ground with the powder of corundum. The spectacles are of a singular size and shape, and kept before the eyes with silk strings, to the end of which a weight is attached, and those strings are put over the ears. The peculiar shape, as well as the materials of which they are made, seems to denote that they were not borrowed from the Europeans. Indeed they avoid everything in the shape of foreign utensils. For preventing the glare of the sun, they make use of an eye-glass, made of a mineral called chashe, of a slight tea-green. This seems to be a smoky quartz or silex.

The *Ear* is supposed to be closely connected with the lungs, and to receive its auditory powers from it; and as diseases of this organ are common, a considerable empirical knowledge of their treatment is often followed by the Chinese practitioners. In pain and inflammation they drop into the ear the juice of a particularly irritating plant, which causes such a secretion from the external canal, as often removes the cause of much distress.

The *Nose* is so closely influenced by the liver, that one affects the other. However, the diseases of the nose are simple and easily cured. When

the marrow in the bones is deficient, the *yang* very bright, and the arteries empty, it produces disease of the *teeth*. Some practitioners of large cities are dentists, which they practice with a considerable degree of expertness.

The *Lips* afford a faithful index of the state of the internal body, whether white, red, or livid. While they indicate the healthy state, they furnish also the harbingers of approaching death.

The *Tongue* is to the apertures, what the heart is to the body in general. Both stand in intimate connection with each other; and as long as the *former* remains healthy, the *latter* can distinguish the state of the five tastes. By discriminating the different tastes, it contributes to the nourishment of the body, and by supplying the stomach with what it wants, enables it to furnish nourishment to the viscera. They suppose, therefore, the aorta of the heart to be at the root of the tongue, and the artery of the liver at the side.

All the *yang* is concentrated in the face; when it is red, it is owing to the heart; if livid, to the liver; if yellow, to the stomach; if white, to the lungs; and by these signs the physician will detect the state of the patient.

SECTION II.

SYPHILIS.

This disease appears to have been brought into China from the west; and from its nature and the manner in which it was introduced into the country by "outside barbarians," for whom they have no respect, it is considered improper for regular practitioners to be engaged in the cure. The consequence of which is that it is left to the care of barber-surgeons and empirics, who generally employ mercury, which they suppose is a specific, and often aggravates the disease, and injures the patient's constitution, by an injudicious use of this mineral. The quacks use it freely in various forms; and likewise arsenic. Syphilis appears in all its European forms; and the ravages occasioned by the disease and the remedies employed, often produce the most distressing consequences. The superiority of the Jesuitical missionaries of China in curing diseases, was the chief cause which procured for them, at an early period, a favourable reception at the court.

A great change of feeling has taken place during the last twenty years, through the benvolent and christian spirit of the west, which has induced them to afford assistance to their brethren in the

east, by placing within their reach the advantage of the science of medicine; and the poor, the maimed, the blind, the deaf, and the lame are found crowding the hospitals and dispensaries, and receiving aid from the medical practitioners supported by the benevolence of the English and American merchants.

These foreign surgeons, who operate for cataract, perform lithotomy, amputate members, and remove tumors, &c., are in great repute, and are by the ignorant, often compared to the gods. The foreign practitioner is peculiarly useful in China, in treating external hæmorrhages, abscesses, wounds of all kinds, erysipelas, ulcers, morbid growths and tumors, burns and scalds, diseases and injuries of the bones and joints, diseases of the urinary organs, hernia, ophthalmia, aural, and cutaneous disorders, &c.

CHAPTER IX.

INTERNAL DISEASES, OR PRACTICE OF PHYSIC.

Better to avert a malady by care, than to have to supply the physic after it has appeared, is a Chinese maxim. Their ignorance of the anatomy and physiology of the human body explains

the variety of their opinions as to the causes of diseases, the imperfect grouping of symptoms, and their considering the more prominent of these as separate diseases. Their nosological list is consequently large and varied; and their methods of treatment and prescriptions for every supposed form of disease are endless. As they supposed, medicine was reduced to a perfect state by their ancient sages, and like other institutions, and mental operations, is immutable; and all changes are deprecated. Thus restrained by their religion, no changes or improvements in the profession are permitted; which will explain their peculiarities in the treatment of disease.

SECTION I.

REMARKS ON THE THEORETICAL CAUSE, NATURE, AND TREATMENT OF DISEASE.

The causes of disease are either external or internal: the former being wind, cold, heat, moisture, dryness, eating and drinking, fatigue, weapons and instruments, &c.; and the latter the passions, anger, pleasure, sorrow, fear, love, hatred, and desire; the six tempers, dispositions, natural

feelings or affections, the animal passions, and the sensual desires. The Chinese, like the Hindus, suppose that many of the diseases to which the human body is liable, are produced by the influence of evil spirits. They enumerate nearly a hundred of such diseases. In these cases the patient becomes reserved, taciturn, and uneasy, without knowing what ails him. The disease advances gradually, and terminates with a prostration of strength, and death. Such diseases resemble atrophy, without any particular local complaint; and the practitioner, being ignorant of the nature of the disease and of the treatment to be followed, ascribes it to demoniacal possessions.

Before undertaking the treatment of a disease, the practitioner must find out its history and symptoms, and observe the condition of the animal heat and radical moisture, which is extended over the body by the circulation of the blood and the spirits of the twelve members. These periodical movements are regulated by the fifty signs of the heavens, and is accomplished fifty times in the space of twenty-four hours. The condition of each of the five organs gives, also, a peculiar variable colour to the face, which becomes an index of the nature and condition of the affected

organs. A livid or green colour like grass, is a forerunner of death. The common livid colour which belongs to the element wood, indicates the prevalence of the *yin* principle; the red colour belongs to the element fire, and announces inflammation, &c.; when the face is yellow, white, or black, it affords other indications. The sound of the voice, the condition of the taste, feeling and desire, will enable the practitioner to judge of the condition, and the chance of the recovery or death of the patient. Should the body feel warm and moist, the patient will live; and if dry and scorched, he will die of the disease: but as long as he can turn himself in bed he may be cured.

The various parts of the body bear a relation to the four cardinal points of the compass and the zenith, which are to be strictly attended to. The fire predominates in the heart and viscera, and as it is concentrated in the south, there exists a relation between the heart and the south. The liver and gall-bladder belong to the air or wind, and as this comes from the east, both have reference to this quarter. The kidneys belong to water, which corresponds and harmonises with the north. The lungs and intestines contain the predominating element of metal, which tallies with the west. The spleen and stomach relate to the earth, and

correspond with the zenith. These cardinal points correspond with the season, and particular times when the body is most invigorated and in its healthy state. The most usual cause of disease is supposed to be derangements of the elements, and these are produced in the body by various external influences. In the heart, *fire* may be deranged in summer, and in southern exposures; *wind* in the liver and gall-bladder in spring; *water* in the kidneys and ureters in the north and in winter; *metals* in the lungs and great intestines, in the west and in autumn; and *earth* in the spleen and stomach from the middle of May. They thus divide the year into four cardinal points, or three months in each season.

The Chinese have no knowledge of the classification of disease, and each author follows his own fancy. Some distinguish them according as they affect the pulse moderately, as cutaneous diseases; or powerfully, as cold or hot diseases which require bleeding; or according to the changes in the discharges from different viscera; by the peculiar matter vomited; by hæmorrhage, by pain in particular organs, by somnolence, lassitude, &c. Such an arrangement groups classes of symptoms without any consideration of the cause or nature of the disease, which

assists the practitioner in the treatment to be pursued. A simpler and somewhat better arrangement is into internal and external diseases. In the former class, the Chinese, like the Hindus, have a vague notion of the difference between local and constitutional disorders: the former consisting of cold and depressing symptoms, for which warm medicines are required; and hot diseases, for the cure of which the superfluous heat is removed by purgatives, &c. When caused by indigestible food, the disease is to be treated by emetics and purgatives; and like the old humoral pathologists of Europe, they believe that ulcers are outlets for noxious matters. The external diseases are certain cutaneous diseases, wounds, bruises, burns, &c., with malignant tumors and swellings, which are supposed to proceed from worms or insects, and which require poisonous remedies for their removal. Another arrangement of diseases is into those of the regions of the body, parturition and diseases of women and children.

Many fanciful speculations, with occasional correct remarks, have been made by the Chinese regarding the prognostics of disease, some of which indicate considerable acuteness in observing the progress of disease. The condition of the eyes indicates the state of the heart; the ear, the

state of the kidneys; the mouth, the state of the spleen; and the nostrils, the state of the lungs. The peculiarities of the smell, particularly of the discharges from the body, with their changes from their healthy appearance, afford also important indications. They consider a yellowish appearance of the inner corners of the eye, and a robust form as signs of good health. Should the size of the eyes diminish suddenly, or a black colour appear round the eyes, ears, and nose, it indicates a serious disease; and if it extend to the mouth, not more than three out of ten will recover. When a swelling of the eyes suddenly diminishes, the individual is a dead man. When the face is yellow, and the eyes violet, or dark coloured, and the patient moves his arms in an irregular manner, a malignant air has seized the stomach, producing a mortal fermentation throughout the body. When the face is blue, the eyes white, and the right kidney, the gate of life, painful, the patient will not live beyond eight days. When the face changes to a purple, and becomes dark coloured, the liver and kidneys are not performing their functions. When the face is purple, and the mouth yellow, the patient will die in twelve hours. When the patient cannot shut his mouth, while expiration is strong, and inspiration weak, he

is a dead man. Among numerous other prognostics, many of them indistinct, a few may be considered as good; thus, when a woman in labour feels a great weight, with alternate heat and shivering, with the under part of the tongue cold, and the upper part hot, the fœtus is either dead or dying, and the mother will likewise die if not delivered. The state of the ears, eyes, mouth, tongue, and nostrils, must also be carefully examined, as like windows they enable the practitioner to judge of the condition of the five organs which affect them in a special manner. This applies particularly to the tongue, which is supposed to be the window of the heart, and its natural colour varies with the disease; many of which variations are indicated with considerable precision.*

Such signs may also be detected in the female and child, which prove the nature and severity of the disease. Thus the child carries his hand to the diseased organ, where the unnatural colour, form, and position of the parts, will indicate the nature of the disease.

Pulse. The state of the pulse is next to be noted, and is considered of the first importance in diagnosing and prognosing disease, as by it the

* La Med. chez les Chinois par Dabry, p. 64, et seq.

Chinese practitioner judges of the seat, cause, and nature of the disease, the organ affected, the course of the disease, and the selection of proper drugs for curing it. This is decided on by the practitioner's experience, and requires him to know the position and nature of each pulse in its healthy and diseased state; and its changes through the individual's idiosyncrasy, and from the season, by which the prognosis is to be drawn in each particular case. It is, consequently, considered of the first importance to examine carefully, and judge accurately, the state of the pulse. If the patient be a male, the practitioner should sit opposite; if a female, a screen should intervene. To examine the pulse, the patient's arm should rest upon a pillow to steady it, and the practitioner should place his three fingers upon the pulsating vessels on the right and left sides above the wrist; and a steady pressure made with the three fingers placed side by side over them, and is often continued for hours, until the practitioner is satisfied of its nature, and the treatment to be followed for its cure. So important is the examination of the pulse, that directions are given to the practitioner how he may examine it under the most unfavourable circumstances, as when a rich female will not allow the practitioner to feel her

pulse, in which case a thread of silk is placed round the wrist, and one end given to the practitioner, by the motion of which he may judge of the pulse at some feet distance.*

According to the Chinese, the pulse differs in every part of the body, the brain being the only organ without a pulse. They distinguish twenty-four different kind of pulses, as the hard, soft, wiry, intermittent, &c ; and it is supposed to vary with the changes that occur in the five viscera and elements of the body, and the diseases to which they are liable. During each inspiration and expiration the pulse should beat four times, and the blood and spirit advance six inches.

According to the Chinese, the extent of the pulse to be examined is an inch above the wrists, and is divided into three pulses, named inch (*tsiin*), metacarpus; bar (*kwan*), higher up; and cubit (*chih*), nearer the elbow. Each of these has a distinct inner and outer pulsating vessel, making twelve pulses, six on the right, and six on the left arm. On the left wrist, the distal pulse, (*tsiin*) on the external side, belongs to the heart; and the internal to the small intestines. The middle pulse (*kwan*), on the external

* Un fil de soye qu' on leur attache au poignet, et sur lequel le Medecine peut appuyer la main à quelques pied de distance De Haulde, tome iii., p. 451.

side is connected with the liver; on the internal side, with the gall-bladder; and the proximal pulse on the external side, is connected with the kidney, and on the internal with the bladder. On the right wrist, the external side of *tsiin* is connected with the lungs, and the internal with the large intestines; the outside of *kwan* with the spleen, and the inside with the stomach; and the outside of *chih* with the right kidney, or gate of life, and the inside with the membranes of the viscera. By feeling the pulse in different parts of the body, they make endless fanciful distinctions, as it is supposed to vary with the sex, with the season, and the derangements of the organs. There are, consequently, numerous situations where the pulse is to be examined, and various circumstances to be considered. There are four chief varieties of these pulse. The *fow*, the strong full pulse; *chin*, deep feeble small pulse; *che*, the slow pulse; and the *so*, the quick and uniform pulse. At the three places for examining the pulse those may each have a different pulse at the same moment. The *kwan* may be *fow*, or strong or full; the *tsiin* may be *so*, or quick; and the *chih* may be *chin*, or small and feeble. By marking the plan and duration of the beating, the accomplished practitioner is supposed to dis-

cover the condition of the body, the effects of the elements, the state of the blood and spirits, and its excesses and defects; which are remedied by diminishing the former, and supplying the latter, so as to reduce the body to its original temperament. Similar doctrines and practices are followed among the modern Hindus and Mahommedans. Such rules regarding the pulse prove that the Chinese were unacquainted with the propelling power of the heart, and the conducting power of the arteries, as the cause of the pulse. Still the laborious Du Halde fancied the Chinese were acquainted with the circulation, without having distinguished arteries from veins.

There are various other pulses that do not admit of explanation, being so refined that they can only be ascertained by the experienced practitioner; and by these the Chinese practitioner is able to discover whether or not a female will have a family, their sex, and other such obscure objects of enquiry. The doctrine of the pulse occupies the chief attention of the Chinese practitioner. He sometimes examines it for hours, before he decides on the nature of the disease. While we reasonably disbelieve such a degree of refinement, it remains a question whether or not the Chinese have not exceeded Europeans in the precision of touch, and

nicety in distinguishing the nature and varieties of which the pulse is susceptible.

A strong, hurrying, slippery pulse indicates *yang* or heat. If deep, sharp, tremulous and weak it indicates *yu*, cold, or an absence of heat. Should there be a stoppage of one beat in forty, it is supposed to be a sign that the noble parts are destitute of spirits, and death will follow in four years after, when the spring developes the grass and herbs. When the liver no longer performs its functions, death will ensue in eight days; and if the heart ceases its functions, the individual will not live one day at the outside; if the lungs, three days, if the stomach, five days, and if the kidneys, four days.

It is of importance to find out whether the disease belongs to the class of hot or cold; whether it proceeds from an internal or external cause; and the region in which it is situated. The disease must therefore be examined with regard to the wind, the appearance, and the pulse of the patient; his strength, the condition of his flesh, bones, and skin, and his character and passions.

When the sick person has thus been carefully examined, and a few questions asked, the practitioner is supposed to be in possession of all that is

necessary to decide on the nature of the disease, its diagnosis and prognosis, and the method of treating it. When the origin and cause of the disease is known, the practitioner may then prescribe for it. This consists of one or two remedies of known efficacy, with the addition of different inert vegetable medicines, which the druggists make up, and it is administered to the sick person according to the written directions.

The dose must be strong to ensure a proper return for the fee, and a favourable effect of the medicine, so as to induce the friends again to employ him; as the practitioner does not repeat his visit, unless particularly invited. His reputation depends on the accuracy with which he explains the cause and progress of the disease, chiefly from the pulse. In most cases a verbal account of the nature of the disease, and the time required to cure it, satisfies the friends of the patient; but when it is a person of rank or riches, the nature of the disease, its prognosis and treatment are written out for the satisfaction of the family.

In general, the treatment of disease consists in administering emetics, purgatives, vermifuge remedies, with mercury, antimony, rhubarb, and ginseng. The infusions often exceed pints, and even quarts in quantity, which must be swallowed

by the patient without any reluctance, as the good qualities would be lost should the patient show hesitation or wry faces. Bleeding is seldom resorted to. Fever being considered like a boiling cauldron of water, it is requisite to reduce the fire, but not to diminish the liquid in the vessel, if we wish to cure the patient. They often employ leeches and cupping when blood-letting is required. Others employ scarifications of the arm, with a many-bladed knife; and a certain class of natives are employed to suck the blood, and the contents of abscesses and boils.

Cold diseases are supposed by Asiatics to require warm remedies for their cure, and hot diseases, cold remedies. Indigestion is relieved by emetics, worms and humors of the abdomen give way to poisonous drugs, and hard humors are expelled by moist remedies. For diseases of the lungs the dose must be repeated nine times, for the heart seven times, for the spleen five times, for the liver three times, and for the kidney only once.

Being thus believers in the humeral pathology, the Chinese talk, says Dr. Abel, of ulcers being outlets of noxious matter; and as they divide diseases into hot and cold, they depend greatly on purgatives for drawing out the heat of the body.

The causes of want of success in the cure of diseases are various: sometimes it is the absence of exercise, the unskilful practitioner not discovering the nature of the disease, or the patient's want of confidence in him, and his not observing the feebleness or inanition of the sick person. As a characteristic fancy of the Chinese, the diseases of the upper part of the body is supposed to partake of *yang* and the nature of heaven, and is best remedied by the heads and tops of plants; those of the trunk by the stem; and the lower and inward parts of the body partake of *yin*, and are best cured by the roots of plants.

The neglect of anatomy and the theoretical notions of the Chinese on physiology and pathology thus lead practitioners into constant errors. In one case, a hernia was mistaken for an accumulation of noxious air, which required to be removed by a puncture.* In another case, dysentery was considered a cold disease, for which strong doses of pepper, cardamons, and ginger in distilled spirits were used with the worst effects, as described by Dr. Abel.

Chun-yn-y says there are six incurable diseases, those afflicting the presumptuous and haughty, who will not hearken to reason; the miser, who

* See Sir George Staunton's Embassy. Vol. ii.

will not spend money for his cure; the poor, that want the necessaries of life; those in whom the *yin* and *yang* are irregular; those who are so low and weak in flesh that they cannot take remedies; and those who give credit to quacks and impostors, and have no faith in the physician.

SECTION II.

PRACTICAL ARRANGEMENT AND CURE OF INTERNAL DISEASES.

Depressing diseases are either produced by malarious or artificial poisons, and cold; developing weakening diseases, such as great fatigue, drinking spirits, sorrow, defective nourishment, &c. This class also comprises scrofula, cholera, the effects of certain articles of food, colic, carbuncle, &c. The diseases from deficiency or poverty of blood are more frequent among the Chinese than those from plethora. *Gout* is uncommon, while rheumatic or neuralgic pains are frequent, and are supposed to be produced by the wind and cold arresting the circulation of the blood. This is the effect of fire, and the swelling arises from moisture.

Scrofula is supposed to arise from the local coagulation of blood and effused air, either from an internal poison, from bad nourishment, or organic derangement, as a suppression of menses, and is cured with great difficulty. Cataplasms of dissolving medicines and onions are applied externally to the swellings, and rhubarb with aromatic pills internally. Should this treatment not be successful, the disease is considered by many incurable.

The effects of *cold*, and of poisonous winds, are paralysis, epilepsy, headache, pains in different parts of the body and uterus, a variety of severe colic, carbuncle, and depressing sweats, &c., for which acupuncture is chiefly relied on. Thus apoplexy is considered a wind-stroke (chung-fung); paralysis a rigid contraction from cold and damp air (fung-tang); neuralgia, a pain in the tendons and muscles, &c.

Dropsies, arising from Bright's disease, the structural derangement of the heart, spleen, and liver, and the effects of exposure to cold or wet, are of frequent occurrence; and from the want of distinction between idiopathic inflammation, and that from impaired or oppressed circulation, it is regarded as an incurable disease.

From the hot seasons and dirty habits of the

Chinese, *cutaneous diseases* are very frequent, and often very severe. *Itch* is very common, and frequently assumes a frightful appearance from neglect and improper treatment. For a like reason, sores often heal very slowly. Tetters, scabes, and ring-worm are very common, and often cover the whole body, from being treated injudiciously and ineffectually. Herpetic eruptions are often cured by saline lotions. *Leprosy* commits dreadful havoc among the Chinese.

The second class of depressing diseases are produced by poisons taken into the system, as arsenic and other poisonous metals, and certain vegetable and animal substances, for checking which, numerous medicines, generally of little efficacy, are recommended. Their effects are considered to belong to jurisprudence, which was carefully studied.*

Hot Diseases.—Among these diseases the Chinese arrange fevers, which are either hot, cold, moist, dry, malignant, &c., and are treated at length in their medical works. In explanation of their variety of types, their theories are obscure and unsatisfactory. They often require to examine the patient for days before they can decide on the type. Continued fever is either a

* De la Medicine chez les Chinois. P. 139, *et seq.*

primary disease, or succeeds an attack of intermittent fever, and varies at different seasons and times. The Chinese distinguished yellow, eruptive, and typhoid fevers. The treatment is varied according to the symptoms present.

They have not distinguished inflammation from fever, and have no name for it; and from their lymphatic temperament and spare habit of body, it is only considered an approximation to a hot disease in their large nosological list. Local inflammations are common, as those of the eye, ear, and skin; while phrenitics, pneumonia, pleurisy, and peritonitis are very rarely seen. As these sometimes occur, their silence proves their want of accurate observation in the study of disease.

CHAPTER X.

DESCRIPTION AND TREATMENT OF PARTICULAR DISEASES.

These are of the mind and head, neck, chest, and abdomen.

a. Mind. Insanity is rarer in China than in Europe. Idiocy is distinguished from lunacy; and this is divided into two kinds — *Kwang* (mania), with an excess of the *yang* principle, or fire and excitement; and *Teen* (dementia—incohèrent madness), with an excess of *yin*, or

excess of depressed fluidity. By some authors insanity is treated as a specific disease, and is characterised by watching, want of appetite, foolish fancies of grandeur and wisdom, unseasonable mad laughter, singing, and silly actions. Such diseases are rare in China, probably from their regular manner of life and temperate habits. The violent cases of insanity are neglected, and remain as outcasts from society, and live as beggars and vagabonds.

Loss of memory, the effect of sudden surprise, of fear, &c., are classified under the same head, and for the cure of which a few weak simple drugs are recommended. As sympathy is not allowed by the Chinese, and their love of theorising and drawing deductions from mere speculation explains every morbid phenomena, so that no doubt is expressed, and no care observed, for arriving at a true conclusion. Such self-reliance is deplorable, and is fatal to all improvement.

b. The *Diseases of the Head and Neck* are—cephalalgia *(tan-yn teow-long)*; goitre *(yng-taï)*; thirst *(sias-ko)*; aphthæ, glossitis, cynanche parotidœa, cynanche tonsillaris.

c. Diseases of the Chest.—The lungs are liable to many injuries both outwardly and inwardly, and from the nature and importance of the organ,

produces shortness of breathing, dropsy, cough, &c., and generally destroys the person. In such cases the Chinese recommend palliatives, such as liquorice, almonds, barley, peach-kernels, &c., medicines that may afford slight relief for the time, without permanent effects. Phthisis Pulmonalis is a frequent disease in China as well as over Asia; and from the determination of blood to the mucous membrane of the chest and abdomen, discharges of blood are common both from the lungs and stomach, and are not so alarming, or pathognomonic of tubercle as in Europe. The other diseases of the chest are those of the valves of the heart, aneurism, and of the respiratory organs, such as catarrh, bronchitis, influenza, asthma, and bronchial cough.

d. Diseases of the Abdomen.—The most common of digestive diseases are dyspepsia, hæmatemesis, colic, diarrhœa, dysentery, cholera, obstruction to the bowels, intestinal worms, jaundice, enlargement of the spleen and liver, ascites, ovarian dropsy, tabes mesenterica, diabetes, Bright's disease of the kidneys, &c. Both dysentery and cholera are more frequent in Asia than in Europe.

To restore digestion a preparation is recommended, composed of pepper, nutmeg, cloves, cinnamon, and a particular nut. Elephants' bones,

when pulverised, and given in a liquid, promotes digestion, and relieves the defects of a disordered stomach. The elephant's ivory is said to be an excellent remedy against diabetes, and his teeth against epilepsy. Camel's hair and fat taken internally remove piles; and the flesh of certain crabs, properly prepared, is an antidote against poison.

The *cholera* (*ho-lwan*, sudden confusion), is described by Whang-shoo-ho and other ancient authors, as early as Hippocrates, as a sudden attack of pain in the heart and abdomen, vomiting and purging, and great thirst, with burning and restlessness, suppression of urine, a dread of cold and desire of warmth. When cramps and spasms occur, and when they extend to the abdomen, it is considered fatal. This disease is supposed to be produced by miasmatic poison, by drinking spirits, eating fish, and indigestible vegetables and fruits, and whatever cools or weakens the body, and checks digestion. It most commonly appears during the cold months in summer, and often in the epidemic form. For the cure of the sporadic form of the disease, the Chinese principally depend on putchuck (costus Arabiens), pounded and mixed with weak spirits, and exhibited warm. They also recommend acupuncture. When an epidemic rages, a great

variety of prescriptions are recommended, and publicly stuck up in the streets, of which cinnabar, musk, and camphor are the most usual ingredients. All liquids of a diluent nature, particularly rice gruel, are strictly forbidden, until the danger is supposed to be over.*

Of *Worms*, the Chinese enumerate eighteen varieties, some of which resemble frogs, lobsters, serpents, &c. They are supposed to produce seven varieties of diseases. An indigenous nut is used with advantage for expelling the different kinds of worms.

* See Med. Ph. Transactions. Vol. i., p. 204, *et seq.*

END OF THE SECOND VOLUME.

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